XXVII. *Report on a collection of* Bombyliidae (Diptera) *from Central Africa, with description of new species, by* Prof. Mario Bezzi, *Turin, Italy.*

[Read October 4th, 1911.]

Plate L.

Through the kindness of Mr. Guy A. K. Marshall, the Scientific Secretary of the African Entomological Research Committee, I have received for study a very interesting collection of Bombyliids from Tropical Africa. Some of these beautiful flies, which may be called the butterflies of the Diptera, are of economic importance on account of their parasitic habits, for the larvae of several species are known to prey on the egg-cases of locusts.

The genera in the collection may be tabulated as follows :—

1 (10). Hind margin of the eyes absolutely entire, not indented and without a deep sinuosity ; proboscis always long.

2 (9). First posterior cell of the wings closed.

3 (6). Upper basal cell longer than the second one.

4 (5). First posterior cell closed long before the hind margin of the wings ; basal comb of the wings distinct *Bombylius*, p. 606.

5 (4). First posterior cell closed very near the hind margin and strongly pointed at the end; no basal comb at the root of the costal vein . . . . *Sisyrophanus*, p. 611.

6 (3). The two basal cells of equal length.

7 (8). Face prominent, moderately pilose ; discal cell as in *Bombylius* . . . . . *Systoechus*, p. 607.

8 (7). Face not prominent, densely pilose ; discal cell very obtuse at the end ; its apical cross-vein as long as the width of the first posterior cell at the same point . *Anastoechus*, p. 609.

9 (2). First posterior cell open ; basal comb of the wings not developed . . . . . *Dischistus*, p. 610.

10 (1). Hind margin of the eyes indented or deeply sinuose.

11 (12). Hind margin of the eyes deeply sinuose ; third antennal joint hairy above ; proboscis long ; first posterior cell as in *Sisyrophanus* . . . . *Eurycarenus*, p. 613.

12 (11). Hind margin of the eyes indented ; proboscis usually short.
13 (14). Second longitudinal vein issuing from the third at an acute angle far before the first cross-vein ; first cross-vein far behind the middle of the discal cell . *Lomatia*, p. 613.
14 (13). Second longitudinal vein issuing at a right angle opposite or nearly opposite the first cross-vein ; if far before, the angle is never acute.
15 (18). Second longitudinal vein issuing from the third some distance before the first cross-vein, at least at a distance which is greater than the distance of the cross-vein itself.
16 (17). Two submarginal cells . . . *Petrorossia*, p. 615.
17 (16). Three submarginal cells ; anal cells broadly open ; wings petiolate ; proboscis long . *Isotamia*, gen. n., p. 627.
18 (15). Second vein issuing opposite or nearly opposite the first cross-vein, the distance at any rate being smaller than the length of the cross-vein itself.
19 (22). Antennal style with a pencil of hairs at the tip ; genitalia of the male of somewhat larger size, symmetrical.
20 (21). Third antennal joint lenticular, with a projecting margin ; abdomen with silvery spots ; wings obliquely bordered with black on the anterior half . . *Anthrax*, p. 620.
21 (20). Third antennal joint not so shaped ; abdomen with scales ; wings clear with some brown spots *Molybdamoeba*, p. 617.
22 (19). Antennal style without pencil of hairs ; genitalia of the male smaller, unsymmetrical.
23 (26). Two submarginal cells only.
24 (25). Face rounded ; wings clear, at most only blackened on the fore margin . . . . . *Villa*, p. 623.
25 (24). Face prominent ; wings with extensive dark or black markings . . . . . *Thyridanthrax*, p. 625.
26 (23). Three or four submarginal cells.
27 (30). Three submarginal cells.
28 (29). Face conically produced ; proboscis short *Exoprosopa*, p. 635.
29 (28). Face rounded ; proboscis long . *Litorrhynchus*, p. 629.
30 (27). Four submarginal cells . . . *Hyperalonia*, p. 651.

1. *Bombylius*, Linnè (1758).

Two species only, belonging to two distinct groups.

1. *Bombylius micans*, Fabricius (1798).

A male specimen of this well-known South African species from Nyika Plateau, Urongo stream, North Nyasa, July 14th, 1909 (*Dr. J. B. Davey*).

2. *Bombylius ornatus*, Wiedemann (1828).

Fifteen specimens of both sexes of this common African species, Songwe River, North Nyasa, June 21, 1909; near mouth of River Rumpi, May 12, 1909; Mwenetete village, Songwe River, June 21, 1909, round cattle (2 ♂, 2 ♀); Florence Bay, November 1, 1909; Deep Bay, October 31, 1909; Marimba, Ukasi village, January 15, 1910 (all from *Dr. J. B. Davey*). Mzimba West Nyasa, May and June 1909 (*Dr. H. S. Stannus*).

2. *Systoechus*, Loew (1855).

This genus, which is of economic importance, is well represented in the collection by numerous specimens belonging to five different species. The larvae live in the egg-cases of locusts, as observed in N. America by Riley (*S. oreas* preying on *Oedipoda atrox*) and in Europe by Stepanoff, Schimkewitch and Portschinsky (*S. autumnalis* and *leucophaeus* on *Stauronotus maroccanus*).

The species before me can be distinguished as follows:—

1 (2). Femora wholly black; abdomen with very few black bristles; wings tinged at the base with dark brown or blackish. *albidus*, Loew.

2 (1). Femora wholly yellow or black at the base only; abdomen with or without bristles; wings wholly clear or with a brownish or yellowish tinge at the base.

3 (6). Abdomen without black bristles at the hind margin of the segments; femora wholly yellow.

4 (5). Eyes of the male separated; face with yellow hairs; hind femora with black spines; wings broadly infuscated at the base . . . . . *robustus*, sp. n.

5 (4). Eyes of the male touching; face with black hairs; hind femora with yellow spines; wings clear at the base. *simplex*, Loew.

6 (3). Abdomen with black bristles at the hind margin of the segments.

7 (8). Face with black hairs; hind femora with yellow bristles *melampogon*, sp. nov.

8 (7). Face with yellow hairs; hind femora with black bristles *ctenopterus*, Mikan.

3. *Systoechus albidus*, Loew (1860).

The abdomen of this species bears very few black bristles, the most of these being whitish. I think that

S. nigripes, Loew (1863), from the Cape is the same species, and both are very closely allied to the European *S. leucophaeus*, Meigen. The species is known from South and West Africa; in the collection are seven specimens of both sexes from West Nyasa, Mzimba, May and June 1909 (*Dr. H. S. Stannus*).

4. *Systoechus robustus*, sp. nov. (Plate L, fig. 1.)

♂ ♀. Length (3 specimens) 13 to 14 mm.; proboscis 8 to 8½ mm. A very robust species, easily distinguished by the short and dense yellowish pubescence of the body, there being no black hairs or bristles whatever on the thorax and abdomen.

Eyes of the male somewhat widely separated, the front of the female being twice as wide as that of the male; the median frontal furrow very little developed; all the hairs of head yellowish; antennae black, the third joint very thin in the apical third, where it is yellow; terminal style very minute; proboscis black, 10 mm. long; ground colour of the head black, the sides of the mouth yellow. Thorax densely clothed with short greyish hairs, those on the sides being a little paler; prealar bristles whitish; scutellum dark red. Squamae brownish, with a dense fringe of white hairs; halteres white. Abdomen black, but in the male the sides and the hind margins of the segments are reddish; the pubescence as on the thorax; bristles wanting. Legs wholly reddish-yellow, only the trochanters and the last tarsal joints being black; with scanty whitish tomentum; all the bristles black, those of the hind femora very strong. Wings somewhat greyish, with a reddish-brown tinge on the basal portion, which extends from the end of the first vein obliquely to the basal cross-veins and to the middle of the anal cell. Basal comb strong, black; veins mostly rufous, the first bright red; second and third longitudinal veins closely approximated till the middle of the first posterior cell.

This species seems to be allied to *S. ferrugineus*, Macq. (1834), from Senegal.

Type ♂, North Nyasa, on the road from Karonga to Fort Hill, near Chikwete's village, May 21, 1909 (*Dr. J. B. Davey*). Type ♀, W. Nyasa, Mzimba, May 1909 (*Dr. H. S. Stannus*). Another male specimen, in poor preservation and denuded, from the same locality as the female type.

5. *Systoechus simplex*, Loew (1860).

The species is known from South and East Africa.

In the collection are two specimens which I refer with

great doubt to this species. A male from North Nyasa, Wovwi River, December 24, 1909 (*Dr. J. B. Davey*); the eyes touching. A female, wholly denuded, from North Nyasa, October 1909 (*Dr. H. S. Stannus*).

6. *Systoechus melampogon*, sp. nov.

♂ ♀. Length (6 specimens) 7 to 9 mm.; length of proboscis 4 to 4½ mm.

Near *S. mixtus*, Wied., but smaller and with black hairs on the face and hyaline wings. Head black, produced; eyes of the ♂ very closely approximated, but not touching; frons and face in the ♂ with the hairs entirely black, in the ♀ with some yellow hairs intermingled on the frons and upper portion of the face. Antennae black, the third joint not attenuated; terminal bristle small, the basal joint not distinct as in *S. mixtus*. Proboscis black, short. Ground colour of thorax velvety black in the male, less velvety in the female; it is densely clothed with erect, dark yellowish hairs of equal length, without black bristles; sterna and pleura with similar hairs; the hairs in the female are of a paler tint. Halteres whitish; squamae brown with yellow hairs. Scutellum dark red, black at the base and in the middle. Abdomen black, sometimes reddish at the sides; the hairs are of the same colour as on the thorax; black bristles well developed. Legs yellow, the basal part of the femora a little blackened in the male: coxae and trochanters black; tarsi black at tip; the pubescence and hairs are white, the bristles yellow, also those on the hind femora. Wings wholly hyaline, with a small yellowish patch at the base; veins brown, the first black; basal comb small, mostly yellow, with a few black bristles.

Type ♂ and two other specimens from Southern Nigeria, Oshogbo, February 27 and 28 (*J. J. Simpson*). Type ♀ and another specimen from the same locality and taken by the same collector, February 28, 1910, and March 1, 1910; another ♂ from North Nyasa, Fort Hill, October 26, 1909 (*Dr. J. B. Davey*).

7. *Systoechus ctenopterus*, Mikan (1796).

A single ♀ specimen from North Nyasa, on the road from Karonga to Fort Hill, near Lufira River, May 30, 1909 (*Dr. J. B. Davey*), which agrees very well with our South European specimens.

3. *Anastoechus*, Osten-Sacken (1877).

This genus has not been previously recorded from Tropical Africa; the species have the same habits and importance as those of the preceding genus.

8. *Anastoechus meridionalis*, sp. nov.

♀. Length 10 mm.

Very near *A. nitidulus* and *hyrcanus*, but with very different antennae. Hairs on the upper side of the body greyish yellow, on the ventral side white. Head with white hairs, except those on the frons, which are black on the upper and yellowish on the lower portion. Antennae with the two basal joints red; the third black, not constricted at the base and tapering into a long point. Scutellum dark red. Squamae whitish and white-fringed; halteres yellowish. The bristles on thorax and abdomen are yellowish. Legs yellow, with white pubescence and white hairs; femora broadly black at the base, the hind femora almost entirely black; bristles whitish yellow; tarsi darkened at tip. Wings as in *A. nitidulus*, but the first posterior cell a little larger.

Type ♀, from West Nyasa, Mzimba, August 1909 (*Dr. H. S. Stannus*); the only specimen.

This is the first *Anastoechus* recorded from the southern hemisphere; the first posterior cell is larger than in typical forms. The North African *A. retrogradus*, Becker, also has the basal joints of the antennae red.

4. *Dischistus*, Loew (1855).

Of this genus, which is represented by very numerous species in Africa, there are in the collection only two specimens, which belong in my opinion to two new species.

9. *Dischistus diadematus*, sp. nov.

♀. Length 6 mm.

A small species, readily distinguished by the two silvery spots on the sides of fore margin of the frons at the base of the antennae.

The body is clothed with golden hairs; only on the frons are there some black hairs; the bristles of thorax and abdomen are black. Head black; frons shining in the middle, with black short hairs, covered on the sides by dense golden pubescence; face clothed with wholly yellowish hairs; the silvery hairs form a transverse band (interrupted in the middle) at the insertion of the antennae; occiput with short and dense hairs. Antennae black; the basal joints very short and black-haired; third joint long, not pointed, obtuse. Proboscis black, 2½ mm. long. Thorax and scutellum velvety black, densely clothed with golden hairs; scutellum bearing eight strong black bristles on the hind margin, those of the middle decussate. On the pleura the hairs are of a paler tinge. Halteres

yellowish. Abdomen black, clothed like the thorax; hind margins of the segments with a row of strong bristles. Legs yellow, with whitish pubescence; femora with the basal two-thirds black; tarsi darkened; bristles strong, black. Wings somewhat greyish, with a small yellowish area towards the base; basal comb not developed; the first, third and sixth veins are red; small cross-vein before the middle of discal cell; apical branch of the third vein oblique, gently curved; marginal cell dilated at the tip.

Type ♀, from Southern Nigeria, Benin City, March 20, 1910 (*J. J. Simpson*); a single damaged specimen.

10. *Dischistus hirtus*, sp. nov.

♀. Length 10 mm.

Very near *D. capito*, Loew, but with black legs; distinguished from *D. seriatus*, Wied., by the hyaline wings.

Hairs of the body very long, yellowish, but with some black hairs intermingled. Frons clothed with short yellow hairs and very long black ones; occiput with very long yellow hairs, a few black near the vertex; face with long hairs which are yellow, with some black towards the sides. Antennae black, the basal joints with very long black hairs; third joint a little attenuated in the apical half. Proboscis black, 4½ mm. long. Thorax and scutellum greyish black, with long hairs which are yellow and black intermingled; scutellum with marginal hairs only, without bristles; pleurae without black hairs. Halteres orange-yellow, abdomen clothed like the thorax, the hind margin of segments with numerous erect, but not strong, black bristles. Wings pure hyaline, with black veins, and no basal comb; small cross-vein placed on the last third of the discal cell; marginal cell not dilated; anterior branch of the third vein very long, bent in the middle. Legs wholly black, with whitish pubescence and hairs and with black bristles.

Type ♀, from North Nyasa, Misuko Plateau, feeding on flowers, June 2, 1909 (*Dr. J. B. Davey*); a single specimen.

5. *Sisyrophanus*, Karsch (1886).

A very distinct genus, of which only a single species, *S. homeyeri*, Karsch, from Pungo Andongo, is known at present; a figure of this species is to be seen on page 54 of the "Entom. Nachricht.," vol. xii. The author places his genus near *Eurycarenus*, which it certainly resembles in the form of the first posterior cell. But as the eyes are absolutely entire on the hind margin, I think that

Sisyrophanus has more affinity with *Dischistus*, notwithstanding the closed first posterior cell. The South African fauna is rich in species of *Dischistus*, which have an elongated cylindrical body, and this is to be seen also in the species of *Sisyrophanus*.

In the collection are represented two species, which are both different from *S. homeyeri* and very distinct.

11. *Sisyrophanus leptocerus*, sp. nov.

♂. Length 11 mm.

A species near *S. homeyeri*, but with black femora, wholly black abdomen and wholly hyaline wings.

Head black; face shining black, strongly and conically produced, bare in the middle, with long pale hairs on the sides; eyes touching for a considerable distance; ocellar tubercle with some black hairs; on the occiput and below the hairs are greyish. Antennae black; the first joint shining, swollen; the second opaque; these two joints bear below some strong and long black and white hairs; third joint opaque, as long as the first two together, much narrower than the first, attenuated at the tip, without distinct terminal style. Proboscis black, 5 mm. long. Upper facets of the eyes distinctly enlarged. Beard dense, white. Hairs of the thorax dense, short, greyish on the upper side, white below; thorax and scutellum black, without black hairs or bristles. Halteres yellowish; squamae with white fringe. Abdomen black, clothed with hairs like those on the thorax; hind margin of the segments with a row of long black hairs. Legs black, the tibiae dark reddish; bristles of the tibiae black; hind femora without bristles, with a few white hairs only. Wings pure hyaline, with a small yellowish area towards the extreme base; veins yellowish; costal cell dilated at the tip; anterior branch of third vein very sinuose; small cross-vein beyond the middle of the discal cell; anal cell widely open; first posterior cell very pointed at the end.

Type ♂, from Mbwabwa, Momberas, May 1909 (*Dr. H. S. Stannus*); a single specimen, not in very good condition.

12. *Sisyrophanus pyrrhocerus*, sp. nov.

♀. Length 9 mm.

A smaller and more cylindrical species, very distinct on account of the bright red third antennal joint and the yellow legs.

Frons wide, shining black, with a grey band at the base of the antennae and some erect black hairs; face very prominent, black, very shiny, with a small yellowish spot at the posterior, lateral

margin of the mouth, bare, with very scanty greyish hairs on the sides. Antennae with the first two joints black, the first swollen but short, bearing short black hairs; the third joint longer than the first two together, and not narrower, of a bright red colour and showing a very minute terminal style. Proboscis black, thin, 5 mm. long. Occiput with long and dense lemon-yellow hairs. Thorax and scutellum black, clothed with long lemon-yellow hairs, without black hairs. Halteres whitish. Abdomen black, with the same hairs as on the thorax, with only a few black hairs on hind margin of segments. Genitalia yellow-red, with long red spines. Legs yellow, with only the coxae and tarsi black; tibiae with yellow bristles; femora with pale hairs, those of the hind pair without bristles. Wings pure hyaline, with black veins, which are reddish at the base, costa and first veins wholly reddish; direction of the veins the same as in the preceding.

Type ♀, and another specimen, from West Nyasa, Mzimba, June 6, 1909 (*Dr. H. S. Stannus*).

6. *Eurycarenus*, Loew (1860).

A very distinct African genus, which seems to be allied to the South American *Heterostylum*, Macq.; at least both genera show the same sinuosity at the hind margin of the eyes. Only a single species is known, which has however, a wide distribution in the Ethiopian region. *E. pachyceratus*, Bigot (1892), from the Cape, is very doubtful, and belongs perhaps to the preceding genus.

13. *Eurycarenus laticeps*, Loew (1852).

Several specimens of this easily recognised species from West Nyasa, Chintechi (*Dr. H. S. Stannus*); another male specimen from Northern Nigeria, Lokoja, January 10, 1911 (*J. J. Simpson*); a very small female (7 mm.) is from Abu Jill, Kordofan (*H. H. King*).

7. *Lomatia*, Meigen (1822).

Of this distinct genus, which is abundantly represented in the Ethiopian fauna, there are in the collection only two specimens, belonging to two very different species.

14. *Lomatia inornata*, Loew (1854—not of 1860!).

Loew has described two different species of *Lomatia* with this same name: one in 1854 from Nubia, and another in 1860 from South Africa. Since the two

species are certainly different, that of 1860 must be re-named *Lomatia loewi*, nom. nov.

The single specimen in the collection, taken at Vitiya, West Nyasa, October 1910 (*Dr. H. S. Stannus*), seems to belong to the species of 1854; but the determination is very doubtful. The indentation of the hind margin of the eyes is very obsolete.

15. *Lomatia gigantea*, sp. nov. (Plate L, fig. 2.)

♂. Length of the body 15 mm., of the wing 17 mm.; wing-expanse 37 mm. General appearance as in our species of the group of *L. belzebul*. Belongs to Division I B of Loew, near *L. pictipennis*, Wied., but of much larger size and with very different wing-markings. The size is about the same as that of *L. longitudinalis*, Loew, which has, however, yellow legs.

Ground colour of head, body, antennae and legs black. Occiput clothed with grey tomentum and yellow pubescence; face and frons with long golden yellow hairs; ocellar tubercle and vertex with black hairs. Eyes subcontiguous, with the indentation of hind margin broad and distinct. Two first joints of the antennae with short black and yellow hairs; third joint elongate conical, a little excavated below, gradually tapering into a long style. Proboscis black, as long as the head. Thorax on dorsum clothed with olive-brown tomentum, which is grey on the pleurae and below; the hairs are dense and golden yellow, greyish on the pleurae, with whitish tufts on meso- and sterno-pleura; the bristles are yellow. Squamae pale yellowish with white fringe; halteres yellowish. Abdomen with entire transverse bands of golden tomentum at the hind margin of each segment; first segment clothed with long hairs, which are yellow dorsally and white ventrally; the hairs on the sides of the other segments are also long and paler; underside with short grey pubescence. Genitalia not prominent, dark reddish, black above, shining. Legs with golden yellow pubescence and black bristles; on the four anterior tibiae the pubescence is whitish. Wings very long; the markings about as in *L. pictipennis*, but the colour yellowish and not brown; there is a dark marking along the first basal cell and around the small cross-vein and its vicinity; on the marginal, submarginal and discoidal (including the second basal) cells are longitudinal stripes of a pale yellowish tinge. No distinct pre-apical brown band; the hind margin of the wing is hyaline throughout its whole length, as is also the apex. Direction of wing veins as in Loew's pl. II, fig. 12, but the first posterior cell is not so narrowed at its end.

Type ♂, from Nyasaland, Blantyre, May 3, 1910 (*Dr. J. E. S. Old*); a single specimen.

8. *Petrorossia*, Bezzi (1908).

This genus was erected by me for the well-known Mediterranean *Argyramoeba hesperus*, and is included in the monograph of Dr. Sack (1909), with this species alone. I am now very glad to find that it is well represented in Africa, as the collection comprises no fewer than four distinct species.

The genus is easily distinguishable from any of its allies; it most closely resembles *Chionamoeba*, Sack, from which it differs chiefly in the form of the discal cell and in the origin of the second longitudinal vein.

The species before me can be distinguished as follows :—

1 (4). Species more robust and of greater size, without golden tomentum on thorax, scutellum and abdomen; frons opaque; abdomen wholly brown, or with a small yellowish marking on the sides only.

2 (3). Frons with black hairs; abdomen wholly brown, or with only a small yellowish patch at the extreme base, with black bristles on the sides; upper branch of third vein normally with a recurrent veinlet . *hesperus*, Rossi.

3 (2). Frons with white hairs; abdomen with a narrow yellowish lateral stripe along its whole length and without black bristles on the sides; upper branch without appendix *letho*, Wied.

4 (1). Smaller and delicate species, clothed with golden tomentum; abdomen orange-red, with or without a median longitudinal dark stripe; frons shining black.

5 (6). Face with white hairs; abdomen with a broad median black stripe; second longitudinal vein strongly bent near the apex; upper branch of the third vein bent at an angle and here with an appendix; anal cell narrowly open *fulvipes*, Loew.

6 (5). Face with black hairs; abdomen without median stripe; second vein slightly curved, as also the upper branch of the third, which is without appendix; anal cell widely open . . . . . *gratiosa*, sp. n.

16. *Petrorossia hesperus*, Rossi (1790).

A single female of great size (length 10 mm.), from N. Nyasa, on the road from Karonga to Fort Hill, near Kaseye, June 1, 1909 (*Dr. J. B. Davey*), which agrees very well with our Italian specimens. The femora are wholly yellow, and there is no appendix to the upper branch of the third vein; the wings are hyaline, and only slightly infuscated toward the fore margin.

This species seems, however, to be decidedly variable. I have in my collection 9 ♂ and 7 ♀ from Upper, Middle and South Italy, Sardinia and Corsica, Portugal, Greece and Syria. Of these specimens, ten have the appendix on the upper branch of third vein ; one has an appendix also on the inner side of the discal cell; twelve have the wings hyaline, the others infuscated ; two have the femora wholly or in greater part yellow. The female has normally the wings hyaline and the upper branch without appendix (five specimens out of seven), and the femora are more yellow.

17. *Petrorossia letho*, Wiedemann (1828).

Anthrax longitarsis, Becker (1902), from Egypt, is without doubt a synonym of this species, which seems to be widely spread in Africa. The female has no appendix at the fork of the third vein, hyaline wings and yellow femora ; the male has also no appendix (but one has an appendix on the anterior angle of the discal cell), but the femora are wholly or partly black ; the wings are darkened in the basal half in two specimens and hyaline in one.

Four specimens of both sexes from North Nyasa, Akamanga, South Rukuru River, October 10, 1909, and Songwe River, September 17, 1909 (*Dr. J. B. Davey*). The species is already known from Nubia, Sahara and Alexandria.

Wiedemann records also the variable colour of the legs ; Loew in 1860 has it under *Exoprosopa*, but in the "Berlin Entom. Zeitsch.," xvi. p. 77, he says that it is a species of *Argyramoeba*, near *hesperus*.

18. *Petrorossia fulvipes*, Loew (1860).

A single male from North Nyasa, Florence Bay, February 1, 1909 (*Dr. J. B. Davey*), of this elegant species, agrees very well with Loew's description. The wings are strongly darkened on the basal half, the limit of the dark patch running obliquely from the end of the first vein to the apex of the anal cell. The appendix of the fork of the third vein is present upon one wing only.

19. *Petrorossia gratiosa*, sp. nov. (Plate L, fig. 14.)

♂. Length, 5 mm.

A very small, pretty species, allied to the preceding one, but abundantly distinct by the wholly orange-red abdomen and different venation.

Head velvety black, the frons shining in the middle, clothed with

black hairs ; face with black hairs, with only a few pale hairs intermingled. Antennae black, of the same form as in the preceding. Thorax and scutellum velvety black, covered with golden tomentum, as in the preceding ; the hairs on the pleurae, however, are of a golden colour, not white. The abdomen has only the first segment black, and is, moreover, a little darkened at the tip. Halteres yellowish. Legs wholly orange-red, the tarsi darkened, with thin black bristles. Wings evenly and slightly darkened over their entire surface. The second vein is only gently curved at the apex, without the usual strong arcuate fold ; upper branch of the third vein long, gently curved, without appendix ; discal cell long and narrow ; small cross-vein placed on the first fourth of discal cell, anal cell but little narrowed at the end.

Type ♂, from Southern Nigeria, Benin City, March 20, 1910 (*J. J. Simpson*) ; a single specimen.

9. *Molybdamoeba*, Sack (1909).

This genus is only slightly differentiated from the following one ; but the species has a particular facies, which seems to be sufficient for its distinction. In this genus is also notable the development and length of the recurrent veinlets of the wings. The wings are hyaline, with a few dark spots on the cross-veins and forks ; the tibiae are yellow. The species in the collection can be distinguished as follows :—

1 (2). Face with white hairs only ; anal cell closed
leucopogon, sp. n.

2 (1). Face mostly or predominantly black-haired ; anal cell open.

3 (4). Abdomen with very large scales towards the sides, compressed at the tip ; pubescence of the body yellowish ; genital plate of male with black fringe ; all the cross-veins on the wings infuscated . *punctipennis*, Wied.

4 (3). Abdomen without lateral patches of large scales, not compressed at the tip ; genital plate without a black fringe.

5 (6). Ground colour of body grey ; abdomen with yellow pubescence ; the yellow hairs in front of the thorax very long ; hairs on the face mostly yellowish
incisuralis, Macq.

6 (5). Ground colour black ; abdomen with the yellow pubescence very scanty ; yellow hairs in front of the thorax sparse ; black hairs predominating on the face
decipiens, sp. n.

20. *Molybdamoeba punctipennis*, Wied. (1821).

Some specimens which agree well with Loew's description; but Loew says nothing about the patches of large scales on the sides of the abdomen. The usual length is 14 mm.; but one male measures only 10 mm. The male genitalia are of large size, and wholly shining red. Black tufts of hairs on the sides of abdomen are to be found only on the second and fourth segments. The single female has the hairs on the face whitish. The wings show always the dark spot at base of the fork of the third vein.

Two males from North Nyasa, Karonga to Fort Hill, near Lufira River, May 30, 1909, and Akamanga, South Rukuru River, October 10, 1909 (*Dr. J. B. Davey*); three males and a female from Nyasaland, Fort Johnston, 2,000 ft., June 1910 (*Dr. A. H. Barclay*).

21. *Molybdamoeba incisuralis*, Macquart (1840).

Agrees very well with Loew's description of *Anthrax mixtus* (1860), which is without any doubt the same species.

Closely allied with the preceding species, but distinguished by the want of large scales on the sides of the abdomen; by the male genitalia being black at the base and without a black fringe; by the presence of black tufts of hairs also on the sides of the fifth abdominal segment; by the want of the dark spot at the base of the fork of the third vein.

Three males from North Nyasa, Mulanasasa, Nchipomi stream, September 16, 1909, and Mudumuka village, North Rukuru River, August 25, 1909 (*Dr. J. B. Davey*); a couple from Nyasaland, Fort Johnston, 2,000 ft., June 1910 (*Dr. A. H. Barclay*). Two male specimens from North Nyasa, Karonga to Fort Hill, near Lufira River, May 30, 1909 (*Dr. J. B. Davey*), belong to the variety mentioned by Loew (1860, p. 213, note 2), with the dark spot at the base of the fork of the third vein. As the male genitalia are, moreover, wholly red, as in *M. punctipennis*, I will give a name to this variety, calling it *var. inquirenda*, var. nov.; perhaps a distinct species.

22. *Molybdamoeba leucopogon*, sp. nov.

♂. Length (two specimens), 9–10 mm.

A grey species, with an oval elongate body; very distinct on account of the wholly whitish hairs of the face and the closed anal cell.

The frons bears erect black hairs and dense whitish pubescence ; face whitish grey, bare below the antennae, the whitish hairs being confined to the inferior portion. Antennae very short, grey. Occiput with whitish scale-like hairs and a short fringe of white hairs. Thorax clothed with erect black hairs and short grey pubescence. The bristles are black ; the hairs on the pleurae are white. Scutellum with the same clothing as the thorax and with strong black bristles on the margin. Halteres white, with yellowish stalk. Abdomen black, with yellow borders on the hind margin of the segments, clothed with grey pubescence and erect black hairs ; the hairs on the sides are longer, but scales are wanting, the second and fourth segments only bearing a tuft of black hairs ; marginal bristles of the last segments long and strong. Underside grey, yellowish at the tip, with white hairs ; genitalia shining red, black at the base, the plate with a short black fringe. Legs black, with white scales and black bristles ; tibiae reddish. Wings wholly hyaline, narrowly luteous at the extreme base. A small brown spot after the origin of the third vein ; the small cross-vein and the base of the second vein placed just opposite to it are margined with fuscous, forming one dark spot ; the cross-vein at the end of the second basal cell is also slightly infuscated. The recurrent stumps are very long ; the second vein is sinuous at the tip ; the first posterior cell is narrowed at the end ; the small cross-vein is placed before the middle of the discal cell ; the lower vein of the discal cell is very sinuous ; anal cell closed at the margin. The veins are black, the first, however, being luteous.

Type ♂ and another specimen from North Nyasa, Akamanga, South Rukuru River, October 10, 1909 (*Dr. J. B. Davey*).

23. *Molybdamoeba decipiens*, sp. nov.

♂ ♀. Length (of 10 specimens), 7–12 mm.

This species differs from all the preceding ones by its prevalent black colour. It is very closely allied to the Mediterranean *M. tripunctata*, Wied., but differs in the colour of the legs, which are in great part yellow ; indeed, the front and middle femora near the end, the tibiae, and some basal joints of the front and middle tarsi, are yellow. The white scales on the abdomen are more developed. The male genitalia are red with black base, and not prominent. The underside of the abdomen bears long white hairs, which are wanting in *M. tripunctata*. Pattern of the wings and direction of the veins the same as in *M. tripunctata*.

The female is very similar to the male ; the tuft of hairs on the genitalia is light yellow.

Type ♂ from North Nyasa, Deep Bay to Vua, May 14, 1909 (*Dr. J. B. Davey*); additional specimens, all males, from Deep Bay, November 3, 1909; near Virauli Mt., July 23, 1909; from Karonga to Fort Hill, near Lufira River, May 30, 1909; from Akamanga, South Rukuru River, October 10, 1909 (all by *Dr. J. B. Davey*).

Type ♀ and a male from Nyasaland, Fort Johnston, 2000 ft., June 1910 (*Dr. A. H. Barclay*).

10. *Anthrax*, Scopoli (1763).

This is not the *Anthrax* of authors, but as I showed in my paper of 1908 (*Zeitschr. f. Hymenopterol. u. Dipteralog.*, p. 34) is the same as *Argyramoeba*, Schiner, as restricted by Dr. Sack in his monograph of 1909.

The genus seems to be very well represented in the Ethiopian fauna, as the collection contains many species; those before me can be distinguished as follows:—

1 (8). Upper branch of the fork of the third vein bent at a right angle in the middle, and with an appendix at the angle.

2 (3). Apical half of the wings with many confluent black spots; basal appendix very long; discal cell darkened in the greater part; squamulae dark. . . *pithecius*, Fabr.

3 (2). Apical portion of the wings wholly hyaline, or with 2–3 separated black spots only; discal cell in the greater part clear; basal appendix short; squamulae white.

4 (5). The basal dark marking of the wings extends broadly beyond the small cross-vein, and is in contact with the spots at the base of the cubital fork and at the end of the discal cell; no hyaline spot before the small cross-vein; plumula with a black fringe . . *diffusus*, Wied.

5 (4). Dark marking ending a little beyond the small cross-vein, and not coalescing with the cubital spot; end of the discal cell not spotted; hyaline spot at the end of the first basal cell just before the small cross-vein; plumula with a white fringe.

6 (7). Species of greater size, with larger rounded brown spots at the bases of cubital fork and third posterior cell; anal cell closed at the wing margin . *aygulus*, Fabr.

7 (6). Species of smaller size; a small cloud only at the base of cubital fork, that at the base of third cell not separated; anal cell open . . . . *homogeneus*, sp. n.

8 (1). Upper branch of the cubital fork gently curved or bent at an obtuse angle, without appendix.

9 (10). Base of the second vein without recurrent veinlet . *spec. indet.*
10 (9). Second vein with the usual recurrent veinlet at the base.
11 (12). Upper branch of the cubital fork with the portion after the bend very sinuous ; no hyaline spot before the small cross-vein . . . . . *camptocladius*, sp. n.
12 (11). The upper branch after the bend is straight ; a hyaline spot in the first basal cell just before the small cross-vein . . . . . *pasillus*, Wied.

24. *Anthrax pithecius*, Fabricius (1805).

This is a common and widespread African species, with which *conspureatus*, Wied. (1828), *confusemaculatus*, Macq. (1855), and *spectabilis*, Loew (1860), are without any doubt synonymous. The single discrepancy in Wiedemann's description of *conspureatus* is the yellowish legs : but this is a very variable character, which is affected by the relative maturity and state of preservation of the specimens. Plumula with black and white fringe. This species can perhaps be better placed in the genus *Molybdamoeba*, with the somewhat similar American *tigrina*, de G. (*simson*, Fabr.).

Several specimens from North Nyasa, Akamanga, October 8, 1909 ; Karonga, September 14, 1909 ; Remero stream, November 24, 1909, and Bundi village, Fuliwa, May 13, 1909 (all from *Dr. J. B. Davey*). Also a specimen from Southern Nigeria, Oni, seventy miles east of Lagos, May 14, 1910 (*W. A. Lamborn*).

The size varies from 8 to 14 mm.

25. *Anthrax diffusus*, Wiedemann (1824).

A. maculipennis, Macq. (1840), is without doubt the same species. *A. hessii*, Wied. (1818), has the dark marking at the base of the wings less widened. Plumula with a black fringe ; anal cell open ; there is often a rounded brown isolated spot on the lower vein of the discal cell.

A single specimen from West Nyasa, Limpachi River, November 1909 (*Dr. H. S. Stannus*). But I have the species in my collection, through the kindness of Dr. Brauns, from Willowmore, Cape Colony.

26. *Anthrax aygulus*, Fabricius (1805).

An interesting species of large size, which had not hitherto been recognised as an *Argyramoeba* in the published catalogues.

The clear portion of the wings is truly hyaline, while in the preceding species it is smoky ; the two black spots are

very conspicuous. The plumula has a white fringe, as in the following species.

A single specimen from North Nyasa, Kaporo, October 22, 1909 (*Dr. J. B. Davey*).

27. *Anthrax homogeneus*, sp. nov. (Plate L, fig. 3.)

♀. Length 7 mm.

A black species with a wing pattern very like that of *Hemipenthes morio*, with the addition of a small dark cloud at the base of the cubital fork. Head black and clothed with black hairs, only on the anterior portion of the frons are some white scaly hairs. Thorax with black hairs and sparse whitish pubescence, towards the sides the hairs are whitish grey ; pleurae grey, with short dark hairs. Halteres white, with a dark stalk. Squamulae of a quite white colour and fringed with white hairs. Scutellum shining black, with four pairs of black bristles, those of the middle crossed. Abdomen black and with black hairs, the first segment with white hairs on the sides ; hind margins of the segments with a thin border of silvery scales, the apical segments being almost wholly silvery. Legs black, the anterior tibiae dark yellowish. Wings black and hyaline ; the black begins at the end of the first vein, and runs obliquely to the apex of the anal cell, which is hyaline, going over the small cross-vein and the base of the third posterior cell. The cloud at the base of the cubital fork is very small. The prediscoidal spot is dark, not hyaline. There are two recurrent stumps ; the upper branch of the cubital fork is gently curved at the base ; anal cell open.

Type ♀, from North Nyasa, Remero stream, November 24, 1909 (*Dr. J. B. Davey*) ; a single specimen.

28. *Anthrax* spec. indet.

A single damaged specimen of this interesting species, from West Nyasa, Momberas District, November 1909 (*Dr. H. S. Stannus*).

In size and appearance very like *A. diffusus*, and with a similar wing-pattern, but the lower veins of the discal cell are all infuscated. The stumps of the recurrent veinlets are wholly wanting ; the upper branch of the cubital fork is simply S-shaped ; the anal cell is closed.

29. *Anthrax camptocladius*, sp. nov. (Plate L, fig. 4.)

♂. Length (of 5 specimens), 7–9 mm.

Closely allied to *A. homogeneus*, but easily distinguished by the very different shape of the upper branch of the cubital fork.

Head with black hairs, and very sparse pale pubescence on the fore portion of the frons. Thorax and abdomen as *A. homogeneus*.

The dark portion of the wings is not so sharply limited, and is variegated with clearer streaks; the dark spot at the base of the third posterior cell is isolated; upper branch of the cubital fork very strongly bent; anal cell broadly open, and with the apical half hyaline (not the apex alone as in *A. homogeneus*). Prediscoidal spot clear.

Type ♂ and another specimen from North Nyasa, Akamanga, South Rukuru River, October 8, 1909 (*Dr. J. B. Davey*). Three other specimens taken in the same locality by the same collector, October 10, 1909, are less typical.

30. *Anthrax pusillus*, Wiedemann (1821).

This species also has not previously been recognised as an *Argyramoeba* in the catalogues. It is near *A. leucogaster* and *volitans*, but this last shows white hairs on the side of the abdomen. The two brown clouds of the wings are often indistinct. After the small cross-vein, the border of the dark portion of the wings shows a deep hyaline indentation.

Three specimens from North Nyasa, Nyungwi stream, November 26, 1909, and Karonga to Fort Hill, near Lufira River, May 30, 1909 (*Dr. J. B. Davey*).

11. *Villa*, Lioy (1864).

The old genus *Anthrax* of authors, which, however, cannot retain this name, must be divided into several smaller genera.

The species of the Old World can be divided into the three following groups:—

1 (4). Face rounded; third joint of the antennae short.

2 (3). Very like *Anthrax* (*Argyramoeba*) in appearance, colouring and wing-pattern; pulvilli often present; larvae living on parasitic Diptera or Hymenoptera . *Hemipenthes*, Loew.

3 (2). Species not closely resembling *Anthrax*; pulvilli always wanting; wings without dark pattern, mostly wholly hyaline; larvae parasitic on Lepidoptera . *Villa*, Lioy

4 (1). Face conically prominent; third joint of the antennae elongate; pulvilli wanting; wing-pattern normally present; larvae preying on the egg-cases of locusts *Thyridanthrax*, Ost.-Sack.

Of the first group there are no species in the collection before me.

The second group, *Villa*, is the one which was called

Hyalanthrax by Osten-Sacken in 1887, and *Aspiloptera* by Künckel d'Herculais in 1905.

The collection has the three following species:—

1 (2). Face with black and yellow hairs intermingled ; abdomen with scaly hairs on the sides, and a black tuft towards the middle ; end of the abdomen with white tufts ; tibiae black . . . . . *paniscoides*, sp. n.

2 (1). Face without black hairs ; abdomen without black tuft on the middle of the sides and without white tufts at the end ; tibiae yellowish.

3 (4). Abdomen with black tufts on the sides before the end *flavescens*, Loew.

4 (3). Abdomen without black tufts before the end . *albescens*, Loew.

31. *Villa paniscoides*, sp. nov.

♂ ♀. Length (of 3 specimens), 11–13 mm.

Near *paniscus*, Rossi, but very distinct on account of the black hairs on the face, and the lateral tufts of black scaly hairs on the third abdominal segment. *A. dizona*, Loew (1860), seems to be an allied species.

Frons black, that of the male very narrowed, clothed with black hairs, yellow hairs being present only upon the antennae, more abundant in the female ; face with yellow hairs, but with many black hairs intermingled, chiefly towards the middle. Antennae black, very short, the terminal style longer than the whole antenna ; the two basal joints bear black hairs, which in the male form a very dense fringe. Thorax clothed with yellow-grey hairs, which in front are very long and dense, and in the middle and hind portion are shorter and darker ; pleurae with dense whitish hairs and a very thick tuft of white hypopleural hairs. Squamulae fuscous, with silvery white fringe. Halteres yellowish-white. Abdomen black, clothed with long grey hairs, which towards the middle are very dark ; in the male there are indistinct transverse bands ; the sides of the first segment with dense white hairs ; on each side of the third segment is a large tuft of black scaly hairs ; fourth with whitish tuft, fifth and sixth with scaly black hairs ; at the end a white tuft on each side, as in *paniscus*. Underside black, with greyish hairs. Legs wholly black, with black bristles and scattered yellowish scales. Wings hyaline, narrowly yellowish at the base, with black veins ; basal comb well developed, in the male black with silvery scales at the base, in the female yellowish with yellow scales ; second vein not strongly bent at the end ; discal cell very long ; rather narrow, the small cross-vein placed before its middle.

Type ♂ from North Nyasa, Mpanda Mountain, November 20, 1909 (*Dr. J. B. Davey*). Type ♀ and another specimen from West Nyasa, Limpachi River, October 1909 (*Dr. H. S. Stannus*).

32. *Villa flavescens*, Loew (1860).

A single couple, agreeing well with the description. Face without black hairs. The male (hitherto unknown) shows a silvery scale at the base of the wing.

The ♂ from North Nyasa, from Deep Bay to Vua, May 14, 1909 (*Dr. J. B. Davey*); the ♀ from West Nyasa (*Dr. H. S. Stannus*).

33. *Villa albescens*, Loew (1860).

Closely allied to the preceding, but quite distinct; face also without black hairs.

A couple from Southern Nigeria, Oshogbo, February 1-27. 1910 (*J. J. Simpson*).

These two species are not unlike our European species of the group *ixion-humilis*, but have the tibiae yellowish and covered with yellow scales; *V. lasia* and *sexfasciata*, Wied., belongs also to the same group.

12. *Thyridanthrax*, Osten-Sacken (1886).

This name was originally proposed for the species related to *fenestratus* and *elegans*, which show the characteristic wing-pattern with the dark marking interrupted by pellucid spots on the cross-veins and bifurcations. But I find that it is impossible to separate from this group the species of the group *afer*, notwithstanding the different pattern of the wings; the third joint of the antennae also shows gradations from the short to the elongate form.

Some species of this group have hyaline wings without, or almost without, any pattern; these species cannot be confused with those of *Villa*, on account of the form of the face, which is projecting, not rounded.

The species of this genus are of economic importance, as they prey upon the egg-cases of locusts.

The species before me can be distinguished as follows:—

1 (2). Third joint of the antennae in the shape of an elongate cone, gradually tapering to a style which is shorter than the cone; dark marking of the wings with pellucid spots; head, scutellum and abdomen in great part red . . . . . *macquarti*, sp. n.

2 (1). Third joint less elongate and with longer style; dark marking without pellucid spots; head, scutellum and abdomen black.

3 (6). Wings with black veins and darkened or black costal cell; colour of the body black; notopleural hairs mostly black.

4 (5). Wings hyaline, with the extreme base black and the costal cell darkened; pleurae with black hairs. *melanopleurus*, sp. n.

5 (4). Wings with the basal third dark brown, the basal cells being also included in the dark portion . . *abruptus*, Loew.

6 (3). Costal cell hyaline; wing veins partly yellow; colour more greyish; notopleural hairs pale . . . spp. ind.

34. *Thyridanthrax macquarti*, sp. nov. (Plate L, fig. 5.)

♂ ♀. Length (of 7 specimens), 7 to 9 mm.

An elegant species with conspicuously bright red abdomen and pellucid spots in the dark area of the wings. It agrees tolerably with the description of *A. fenestralis*, Macquart (1840), from the Cape, and is perhaps the same; but in the specimens before me the two basal joints of the antennae are red, a thing of which Macquart says nothing; in any case his name must be changed, because there is already another *A. fenestralis*, Wied. (1830), from Brazil.

Face wholly yellow, with white hairs; frons also yellow, but black near the vertex and clothed with black erect hairs. Thorax black; the hairs of the dorsum are denuded, but the sides show whitish hairs. Scutellum red, black at the base. Metapleural hairs and halteres white. Abdomen wholly red, with a basal triangular black spot, which usually reaches only the hind margin of the third segment, but sometimes extends as a black median stripe to the last segment; the hairs are denuded. Legs black, with the tips of the femora and tibiae red. Wings hyaline, yellowish towards the base; in the middle there is a brown cross-band, in which are to be seen 3–4 subpellucid spots at the cross-veins; this band does not reach the hind margin of the wings; the tip of the discal cell is hyaline.

Types ♂ ♀ and five other specimens from North Nyasa, Fort Hill, September 26, 1909 (*Dr. J. B. Davey*).

35. *Thyridanthrax melanopleurus*, sp. nov. (Plate L, fig. 6.)

♀. Length (of 5 specimens), 5–10 mm.

A black species near *linea*, Loew, but distinguished by the black-haired pleurae.

Head wholly black; face and frons clothed with black hairs, the last almost without pale pubescence; antennae black, the third

joint with a short point and a rather long style. Thorax with black hairs, in front also; the side shows an entire white longitudinal stripe, which is continuous with the white spots on the indentation of the hind margin of the eyes; pleurae wholly black-haired, sometimes a few pale hairs in the posterior part of the metapleural tuft. Scutellum black. Halteres brownish. Abdomen black; on the sides at the base are white hairs; the third segment bears at base an entire but narrow transverse band of white hairs; the sides of the abdomen bear dense tufts of black scaly hairs. Legs wholly black, with black bristles and black pubescence. Wings hyaline, with black veins; the base is black as far as the basal cross-veins; costal cell darkened; the small cross-vein is broad and with a narrow dark margin. Squamulae with a white fringe.

Type ♀ and four additional specimens from North Nyasa, Nyika Plateau, Rongorwi stream, August 29, 1909 (*Dr. J. B. Davey*).

36. *Thyridanthrax abruptus*, Loew (1860).

Allied to the preceding, but showing a more extended dark pattern on the wings. The hairs on the front of the thorax are yellow. Squamulae with a yellowish fringe. Metapleural hairs partly black. Wing veins black.

A specimen from North Nyasa, Kabwiia stream, August 31, 1909 (*Dr. J. B. Davey*); another from West Nyasa, Momberas District, October 1909 (*Dr. H. S. Stannus*); and one from Northern Nigeria, Minna, October 10, 1910 (*J. J. Simpson*).

37. *Thyridanthrax* sp. indet.

A single badly-preserved specimen of a grey species, the wings of which are hyaline, with the extreme base only black. I think that is only a form of the Mediterranean *T. vagans*, Loew.

North Nyasa, Vua, October 28, 1909 (*Dr. J. B. Davey*).

38. *Thyridanthrax* sp. indet.

A single specimen of another smaller species, allied to the preceding one and to *T. leucoproctus*, Loew (1860), from the Cape.

North Nyasa, Bundi Village, Fuliwa, May 13, 1909 (*Dr. J. B. Davey*).

13. *Isotamia*, gen. nov.

Type: *Isotamia daveyi*, sp. nov.

This genus can be regarded as an *Exoprosopa* with very long proboscis and very narrowed wings, which are almost

petiolate at the base; the origin of the second vein takes place much before the small cross-vein, and the anal cell is of equal size throughout its length (whence the name, *isos* and *tamcion*).

Face but little projecting; antennae short, widely separated from each other; the third joint short, the styliform portion terminating in a short style, 1½ times the length of the whole antenna. Proboscis 2½ times as long as the head. Eyes with a deep indentation. Mouth opening very broad. Legs of the *Exoprosopa* type; claws very small; hind claws with a basal tooth.

Wings very long and narrow, at the base elongately cuneate, anal lobe and alula absent; prealar hook small; no basal comb. First vein distant from the costa, the costal and subcostal cells therefore broad; second vein strongly bent at the tip; marginal cell broad; three very large submarginal cells; four posterior cells all open; anal cell in its middle as broad as at the end, or only a little broader at end; discal cell on the middle of the wing, short, not broader than the second basal cell; small cross-vein placed a little after the middle of the discal cell; the vein dividing the third from the fourth posterior cell placed towards the middle of the discal cell, which there makes a protuding angle; the third longitudinal vein begins in a right angle before the small cross-vein, at a distance from this which is two or more times the length of the veinlet. The width of the cells on the anterior portion of the wings and the narrowness of those on the hind portion are so striking that the third longitudinal vein becomes therefore placed a little behind the median axis of the wing.

39. *Isotamia daveyi*, sp. nov. (Plate L, fig. 7.)

♀. Length of the body 7 mm., of the proboscis 4 mm., of the wings 7 mm.

A black and black-haired species, with pale pubescence on the thorax and abdomen, and with the anterior half of the wing blackened.

Frons with sparse, pale tomentum; hind margin of the eyes with a narrow white border; antennae and proboscis black. Thorax and scutellum with yellow pubescence; hind margin of the scutellum with whitish tomentum; the hairs black, but in the middle of the front part there are a few yellow hairs; pleurae covered with strong and rough black bristly hairs; metapleural hairs also black. Squamulae less distinct; halteres black. Abdomen black, with yellow and white pubescence; the second segment bears a broad band of white tomentum; the hairs on the sides of the first segment are

strong and rough, like those on the pleura. Legs black and with black bristles; the tibiae are yellow, the two anterior pairs paler. Wings greyish hyaline, with black veins. The narrowed petiolated base is black to the basal cross-veins; the limit of the black begins at the fore border a little after the end of the second vein, and runs obliquely to the third vein, to the small cross-vein, to the base of the discal cell, and to the middle of the anal cell; there are three projecting black teeth, one at the base of the first submarginal cell, one on the middle cross-vein and one at the apex of the second basal cell. The very broad second basal cell bears at its end a pellucid spot.

Type ♀ from North Nyasa, Kaulunga Village, near Lufira River, July 18, 1909, collected by *Dr. J. B. Davey*, in whose honour the species is named; a single specimen.

14. *Litorrhynchus*, Macquart (1840).

I here regard this genus as distinct from *Exoprosopa*. The species have a restricted geographical distribution, being exclusively found in Central and South Africa; they may be distinguished by the characters of the proboscis and by the wing-pattern. Mr. Verrall also, in his masterly and splendid work on British Flies, V, p. 479, mentions this genus as a distinct one.

I will give here the essential characters of the genus:—

Face rounded, not conically projecting; mouth opening more elevated; proboscis at least twice as long as the head; frons of the male broad; style of the antennae longer than the third joint. The abdomen bears spots of silvery scales on the third segment; the antennae and legs are partly red. Hind claws with a tooth. The origin of the second longitudinal vein takes place always opposite to the small cross-vein; the basal vein of the second posterior cell is of equal length to that on the base of the third, and is placed in the same line with the axis of the wing. Pattern of the wings very uniform, consisting of two broad cross-bands of yellowish-brown or blackish colour.

The species of this genus are fairly numerous and can be divided into two very distinct groups:—

A. *First group.* Pattern of the wings brown or yellowish-brown, not black; the vein dividing the second from the third posterior cell is extraordinarily bent against the fore margin of the wing, and therefore the third posterior cell is two or three times as broad as the second. Palpi of a

yellowish colour. Colouring of the body in great part reddish.

The species of this group before me can be distinguished as follows:—

1 (2). The brown pattern of the marginal cell ends a little after the veinlet dividing the first from the second submarginal cell and leaves therefore a fairly broad apical hyaline space . . . . . *basalis*, Ric.

2 (1). The marginal cell is filled up by the brown pattern to the end, or almost to the end.

3 (6). The marginal cell is filled up by the brown pattern to its end and even a little beyond ; thorax black.

4 (5). The bristles of the hypopleural tuft are all of a golden colour, or only a few are black; squamulae with the fringe golden *nyasae*, Ric.

5 (4). Hypopleural tuft with black bristles ; squamulae fringed with argenteous . . . . *argyrolepis*, sp. n.

6 (3). The brown tint of the marginal cell leaves at the end a small hyaline space. Thorax red, with black stripes.

7 (8). The first posterior cell is broadly hyaline at the end ; thorax with three black stripes . . . *ricardoi*, sp. n.

8 (7). The first posterior cell is filled with brown almost to the end; thorax with two black stripes . *dentiferus*, sp. n.

40. *Litorrhynchus basalis*, Ricardo (1901). (Plate L, fig. 8.)

Four gigantic specimens, 20 mm. in length, and with a wing-expanse of 46 mm., all from North Nyasa, Karonga to Fort Hill, near Lufira River, May 30, 1909 (*Dr. J. B. Davey*).

These specimens agree very well with the description; but I think that this species is perhaps the same as *macropterus*, Loew (1860); the difference in the shape of the pattern at the base of the wings is very small. Loew records also a specimen of his species of eight lines in length.

41. *Litorrhynchus nyasae*, Ricardo (1901). (Plate L, fig. 9.)

A specimen from North Nyasa, in bush near Vua, May 15, 1909 (*Dr. J. B. Davey*); compared with co-type by Mr. E. E. Austen. Another smaller specimen from West Nyasa (*Dr. H. S. Stannus*).

42. *Litorrhynchus argyrolepis*, sp. nov.

♂ ♀. Length (of 3 specimens), 12–13 mm. Closely allied to the preceding species, but easily distinguished from this and from all the others by the squamulae being fringed with silvery hairs. Head reddish-brown ; frons and face with yellow pubescence and black hairs ; antennae red, with the third joint and the style black ; proboscis black, 5–6 mm. long. Thorax wholly black, with yellowish pubescence and black bristles ; pleurae with black and reddish hairs intermingled ; hypopleural tuft black, scutellum red, narrowly black at base, clothed like the thorax, with 8–10 marginal bristles. Halteres blackish. Abdomen black, more or less red on the sides and at the hind margin of the segments ; first segment with white hairs on the sides ; the other segments with dense black hairs on the sides ; sixth and seventh with white scales ; the usual white spots on the third are very well developed. Legs red, with black bristles ; tarsi darkened. Pattern of the wings as in *L. nyasae* ; the middle cross-band is often narrowed towards the hind margin of the wings, not filling up the whole width of the end of the third posterior cell.

Types ♂ and ♀ and another specimen from West Nyasa, Nora, Choma and Mzimba, May–August, 1909 (*Dr. H. S. Stannus*).

43. *Litorrhynchus ricardoi*, sp. nov. (Plate L, fig 10.)

♀. Length of the body (of 2 specimens) 14–15 mm., of the wing 17–18 mm., of the wing-expanse 38–41 mm.

Very near the preceding, but larger, with clearer wing-pattern, and with the marginal cell narrowly hyaline at the end.

The hairs on the frons are black, those on the face wholly whitish ; antennae red, the third joint blackish ; hind margin of the eyes whitish. Thorax red, with three longitudinal black stripes, which unite at a single spot in front of the scutellum ; the hairs of the collar and of the pleurae are all of a golden colour ; the bristles are black. Scutellum red, with a marginal row of black bristles. Squamulae with a thick golden fringe ; halteres blackish. Abdomen red, with a narrow median black stripe, which does not extend beyond the fourth segment ; the hairs on the sides of the first segment are white, the others black ; the usual white spots are well developed ; underside, red. Legs wholly red. Markings of the wings yellowish-brown, darkened towards the margins of the bands ; their general shape as in *L. nyasae*, with the above-noted differences ; the hyaline spot in the second basal cell is very greatly developed.

Named in honour of Miss G. Ricardo, who has done good work in studying the South African Bombyliids.

Type ♀ and an additional specimen from West Nyasa, Mzimba and Mbwabwa, in Momberas District, May–June 1909 (*Dr. H. S. Stannus*).

44. *Litorrhynchus dentiferus*, sp. nov. (Plate L, fig. 11.)

♂. Length of the body 17 mm., of the wing 20 mm., of the wing-expanse, 45 mm.

A beautiful species very near the preceding, but readily distinguished by the different colouring of the thorax and wings.

Antennae wholly red. Thorax with the two longitudinal stripes very narrow and wide apart, and without a black spot in front of the scutellum; a whitish stripe on the sides of the back; the thoracic bristles are yellow, but those on the margins of the scutellum are black. Abdomen red; the first three segments with a median triangular black spot only; genitalia red, with a yellow fringe. Legs wholly red. Pattern of the wings as in *L. ricardoi*, but of a more yellow tint; the tooth-shaped projection on the first posterior cell is very characteristic; the base of wing is yellow; the spot in the second basal cell is smaller and less hyaline.

Type ♂, from West Nyasa (*Dr. H. S. Stannus*); a single specimen.

B. *Second group.* Colour of the body and of the wing-pattern black. Palpi darkened. Genitalia of the male black. The vein dividing the second from the third posterior cell much less curved forward, and therefore the third posterior cell only 1½ times broader than the second.

While the species of the first group seem to be principally confined to South and East Central Africa, those of this second group are more prevalent to the North of the Equator. The species before me are to be distinguished as follows:—

1 (2). The marginal cell is filled with black in its whole length, the black pattern extending even a little beyond its end
repletus, sp. n.

2 (1). The marginal cell is broadly hyaline at apex.

3 (6). Propleural and metapleural hairs black; small cross-vein without pellucid spot.

4 (5). Middle band of the wing narrowed towards its lower end, filling only a part of the third posterior cell
rostratus, Loew.

5 (4). Middle band dilated towards its lower end, filling almost the whole of the second and third posterior cells
dilatatus, sp. n.

6 (3). Propleurae and metapleurae with golden-reddish hairs; a pellucid spot on the small cross-vein.

7 (8). Third joint of the antennae elongated, as long as or longer than the style . . . . . *tollini*, Loew.

8 (7). Third joint short, much shorter than the style *perplexus*, sp. n.

45. *Litorrhynchus repletus*, sp. nov. (Plate L, fig. 12.)

♀. Length of the body 6 mm., of the wing 8 mm. A small species, very distinct from all the others of this second group, owing to the black end of the marginal cell.

Head, dark yellowish, blackened on the frons and on the occiput, clothed with black hairs and with sparse pale pubescence, antennae short, the two basal joints reddish, the third blackened, of a short conical shape, much shorter than the style. Proboscis 4 mm. long; palpi darkened. Thorax black, with pale pubescence; the hairs are long, those on the collar yellow, on the pleurae partly black and partly golden; the bristles are black and very long. Halteres black, with greyish knob. Scutellum dark red, with very long marginal black bristles. Squamulae blackish. Abdomen black, red on the sides of second, third and fourth segments; first segment with white hairs on the sides; the silvery spots on the third segment are well developed; the hairs are black, those on the sides are disposed in the shape of a fringe, and are all black. Spines of the female genitalia yellow; underside of the abdomen dark blackish, yellowish towards the middle. Legs dark reddish, the tibiae paler; bristles black; tooth of the hind claws very small, indistinct. Pattern of the wing black, as in the following species; but the black colour fills the marginal cell and extends over half of the apical submarginal cell; small cross-vein without pellucid spot; hyaline spot of the second basal cell large; the upper internal angle of the first submarginal cell is also blackened, while in the other species it is always hyaline. Middle cross-band broad at the end, filling the half of the second, and the whole of the third posterior cells; basal cross-band distant from the apex of the discal cell.

The left wing of the single specimen examined shows only two submarginal cells, the dividing veinlet being reduced to a stump.

Type ♀ from West Nyasa, Choma, 4000 ft., May 1909 (*Dr. H. S. Stannus*).

46. *Litorrhynchus rostratus*, Loew (1860).

Distinguished by the conspicuous tufts of black hairs on the sides of the thorax. The black basal band extends to the apex of the anal cell, or ends only a little before it.

The stumps of veins described by Loew are often wanting. Two specimens from West Nyasa, Mulowe (*Dr. H. S. Stannus*).

47. *Litorrhynchus dilatatus*, sp. nov.

♀. Length of the body (of 2 specimens) 10–11 mm., of the wings 11–12 mm.

Very closely allied to the preceding species, but distinguished by the middle cross-band of the wing being dilated at the lower end.

Head as in *L. rostratus*; the antennae also, but the third joint reddish. Thorax in front with a collar of reddish hairs; pleurae with the black tuft of the preceding, and a white tuft beneath the posterior calli. Halteres and squamulae blackish, scutellum reddish, with black marginal bristles. Abdomen black, narrowly reddish on the sides of the second and third segments; its hairs are black, those on the sides also, with the exception of the first segment, which is clothed with the usual white hairs. The silvery spots on the third, fifth and sixth segments are normally developed. Underside black, reddish at the base; terminal spines of the female genitalia red. Legs reddish, including the coxae; femora and taris more darkened; bristles black. Wings as in *L. rostratus*, but the basal band reaching always the end of the anal cell; small cross-vein without pellucid spot.

Type ♀ from North Nyasa, Karonga, May 26, 1909 (*Dr. J. B. Davey*); an additional specimen from West Nyasa, Mulowe (*Dr. H. S. Stannus*).

48. *Litorrhynchus tollini*, Loew (1863). (Plate L, fig. 13.)

Distinguished by the very elongate third antennal joint, and the reddish tufts on the sides of thorax. The pattern of the wings is very like that of *L. rostratus*, but the small cross-vein is usually enclosed in a pellucid spot, and the basal band is very distant from the end of the anal cell.

I am very doubtful if this species can be separated from *L. senegalensis*, Macquart (1840); and my *L. erythraeus* (1906) seems to be also the same widely spread species.

Two specimens from North Nyasa, Karonga to Fort Hill, near Lufira River, May 30, 1909, and Mt. Waller, September 1, 1909 (*Dr. J. B. Davey*); another specimen from West Nyasa, Choma, May 1909 (*Dr. H. S. Stannus*).

49. *Litorrhynchus perplexus*, sp. nov.

♀. Length of the body 11 mm.; of wing 13 mm. Distinguished from the preceding by its smaller size and short third antennal joint.

Head reddish-brown, darkened above and behind. Antennae wholly yellow, with a very long style; thorax with the collar yellow-haired; lateral tufts with yellow and black hairs intermingled; the white tufts below the posterior calli are large; the bristles are black. Scutellum reddish. Abdomen reddish on the sides of the second, third and fourth segments; the hairs and spots as usual. Legs wholly yellowish-red, wings as in *L. rostratus*, but the pellucid spot on the small cross-vein less developed; basal band distant from the end of the anal cell. The outward margins of the two cross-bands are more straight than in the related species; the middle band not filling the apex of the second posterior cell, which remains hyaline in its whole length along the hind margin of the wing.

Type ♀, from West Nyasa, Ekwendeni (*Dr. H. S. Stannus*); a single specimen.

15. *Exoprosopa*, Macquart (1840).

Even as restricted here, with the exclusion of the genera *Litorrhynchus* and *Hyperalonia*, this genus remains a very rich one; and it must be recognised that the species included in it are rather heterogeneous.

It is very probable that many species, if not all, have, during their larval life, habits similar to those of *Thyridanthrax*.

The numerous forms in the collection can be divided as follows:—

1 (4). Discal cell with a strong right angle projecting into the third posterior cell.

2 (3). Body and legs black; wings almost all blackish *umbrosa*, Loew, p. 638.

3 (2). Head, abdomen and legs yellow; wings yellowish hyaline *inermis*, sp. n., p. 638.

4 (1). Discal cell without such an angle projecting into the third posterior cell, the vein dividing it from this cell being straight or only S-shaped.

5 (10). The transverse vein between the discal cell and the second basal cell very strongly S-shaped.

6 (7). Wing darkened almost over its entire surface, with broad fuscous borders along the veins; discal cell very pointed externally, as in *Litorrhynchus*; second longitudinal vein very strongly bent at its end; abdomen clothed with long erect black hairs . . . *venosa*, Wied., p. 639.

7 (6). Wings not so coloured ; discal cell more obtuse ; second longitudinal vein not so curved before the end ; abdomen without black erect hairs.

8 (9). Wings darkened, the costal portion more intensively ; first posterior cell very narrowed at the end ; abdomen with patches of scales on the sides . *lepidogastra*, sp. n., p. 639.

9 (8). Wings clear, obliquely bordered with black on the anterior half; first posterior cell broadly open ; sides of the abdomen without scales . . *sigmoidea*, sp. n., p. 640.

10 (5). The transverse vein between the discal and the second basal cell straight, or only slightly curved.

11 (22). Wings obliquely bordered with black on the anterior half and the posterior half clear, without isolated black spots and with the discal cell mostly hyaline.

12 (19). The black fore border of the wings without any black projection on the external upper angle of the discal cell ; legs black or with only reddish tibiae.

13 (16). Pleurae wholly with yellowish hairs or with the yellow hairs predominant ; metapleural tuft yellow-grey, absolutely without black hairs.

14 (15). Antennae black ; sides of the second, third and fourth abdominal segments with a single broad silvery spot, which is connected with a white transverse band on the third segment ; discal cell short and broad . *dimidiata*, Macq. p. 641.

15 (14). Antennae reddish at base ; sides of the abdomen without such a large silvery spot ; discal cell narrow and more than twice as long as broad . *discriminata*, sp. n., p. 641.

16 (13). Pleurae with black hairs ; metapleural tuft black or with the black hairs predominant.

17 (18). Third abdominal segment only with a white band ; metapleural tuft black ; tibiae black ; black costal border of the wings extending beyond the small cross-vein ; species of greater size . . . . *luctifera*, sp. n., p. 642.

18 (17). Abdomen with the second, third and fourth segments wholly argenteous ; metapleural tuft black and grey ; tibiae reddish ; black costal border ending a little beyond the small cross-vein ; species of smaller size *argyrophora*, sp. n., p. 643.

19 (12). The black fore border with a black tooth over the external angle of the discal cell ; legs reddish or red.

20 (21). The external upper angle of the discal cell is wholly filled with black . . . *argentifrons*, Macq., p. 643.

21 (20). The external upper angle of the discal cell is hyaline *scaligera*, sp. n., p. 643.

22 (11). Wings not so coloured.

23 (26). Wings mostly black, with hyaline apex; discal cell almost all black; no isolated brown spots; some pellucid spots on the cross-veins.

24 (25). Wings black also at the base and along the whole fore border; yellowish spots on the cross-veins very small; third posterior cell shorter than the fourth; head, abdomen, antennae and legs black . *jacchoides*, sp. n., p. 644.

25 (24). Wings yellow at base and in the middle of the fore border; yellow spots on the cross-veins very broad, therefore the wing-pattern showing two black bands fused together on the hind margin; third posterior cell as long as the fourth; head, abdomen, antennae and legs red *laeta*, Loew, p. 645.

26 (23). Wings mostly or wholly hyaline; if the fore border is dark, the posterior edge of the marking is not sharply defined; the discal cell is always hyaline; there are sometimes isolated brown spots on the cross-veins.

27 (38). Wings with the fore border narrowly darkened along the costa, but not sharply defined; cross-veins for the most part infuscated.

28 (37). Abdomen of conical shape; face strongly conical and projecting; some cross-veins infuscated.

29 (30). Thorax with a distinct white stripe on the sides; abdomen with white scales; all the cross-veins margined with fuscous . . . . *punctulata*, Macq., p. 645.

30 (29). Thorax without lateral white stripe on the dorsum; the second cross-vein not margined with fuscous.

31 (32). Legs and antennae entirely black . *major*, Ric., p. 646.

32 (31). Legs and antennae partly red.

33 (34). Basal joints of the antennae red; frons almost without black hairs; very large species, without black bands on the abdomen . . . . *batrachoides*, sp. n., p. 646.

34 (33). Basal joints of the antennae black.

35 (36). Femora entirely red; hairs of the body grey, without black hairs on thorax; wings hyaline . *stannusi*, sp. n., p. 647.

36 (35). Femora with a black stripe; hairs of thorax of a golden colour, mesopleurae with black hairs; halteres and wings darkened . . . . *capnoptera*, sp. n., p. 648.

37 (28). Abdomen not conical; face less projecting, almost rounded as in *Litorrhynchus*; cross-veins not infuscated *penthoptera*, sp. n., p. 648.

38 (27). Wings entirely hyaline, or only slightly yellowish along the costal cell.

39 (40). Third antennal joint very elongate, without style, and yellow in its basal half . . . *heterocera*, sp. n., p. 649.

40 (39). Third joint of the antennae entirely black, not so long, and often very short, always with distinct style.

41 (42). Third joint of the antennae very short, ending in a short point, with the terminal style longer than the joint itself; large species of the appearance of a *Villa* *villaeformis*, sp. n., p. 650.

42 (41). Third joint longer than the style.

43 (46). Legs and body black.

44 (45). Hairs of the breast grey . . *minois*, Loew, p. 650.

45 (44). Hairs of the breast black . *hypomelaena*, sp. n., p. 651.

46 (43). Legs and body partly red.

47 (48). Wings with a slight yellowish tint; hairs on the pleurae yellowish-grey . . . . *inornata*, Loew, p. 651.

48 (47). Wings pure hyaline; hairs on the pleurae pure white spec. indet., p. 651.

50. *Exoprosopa umbrosa*, Loew (1860).

A single female from West Nyasa (*Dr. H. S. Stannus*), which agrees well enough with the description. The third posterior cell is a little shorter than the second, and at the apex is only a little broader than the same cell. The angle of the discal cell shows the stump in the third posterior cell, as stated by Loew; but there is a second stump in the discal cell itself, beginning at the vein dividing the second from the third posterior cell and making a small supernumerary cell in the upper apical corner of the discal cell. The spines of the female genitalia are yellowish-red.

51. *Exoprosopa inermis*, sp. nov.

♂. Length of the body 12 mm., of the wings 10 mm.

A species characterised by the angle of the discal cell and the luteous colour of the head, abdomen and legs; a striking character distinguishing it from any other species is the apparent absence of bristles on the thorax and scutellum, but I am not absolutely sure of this, owing to the poor preservation of the specimen; at any rate I cannot find a trace of the points of insertion of the bristles, if these are denuded.

Face not projecting at all, rounded, convex, shining; frons broad, for a male, with sparse yellowish pubescence and short black hairs; antennae yellow, the third joint a little darkened, of conical shape, longer than the two basal joints together, with the terminal style as long as one-third of the joint itself. Proboscis black, not prominent.

Thorax black, with a yellow spot before the scutellum and yellow shoulders; it is clothed with dense grey hairs, without any black hairs, as are also the pleurae; the tomentum is yellow; the usual bristles are wanting, so far as I can see; metapleural tuft white; squamulae dark brown, with a whitish fringe; halteres yellow. Scutellum yellow, with white hairs, without bristles. Abdomen of oval shape, entirely yellow, with a black rounded basal spot in the middle of the second segment and very narrow transverse black stripes before the hind margin of the second and third segments; there is white tomentum on the sides and on the venter; first segment with whitish hairs on the sides. Male genitalia yellow. Legs wholly yellow, the tarsi darkened at the tip; hind tibiae with short black bristles; ungues with the base red and bearing a small tooth; femora without bristles. Wings short and broad, greyish hyaline, with a yellowish tint, which is more intense towards the base and along the fore margin; veins thick, yellow, brown outwardly; small cross-vein placed a little before the middle of the discal cell; base of the second vein opposite to the small cross-vein; the vein dividing the second from the third submarginal cell bent at a right angle in the middle and here with a short stump; the first posterior cell very broadly open, second and third almost of equal width at the end; discal cell short and of a very characteristic shape, its posterior boundary deeply bisinuate, forming with the proximal boundary a wide W with rounded angles; in the right wing only of the typical specimen the middle angle of the W emits an appendix into the cell. Anal cell broadly open. Prealar hook yellow; basal comb of the wings yellow.

TYPE ♂, from North Nyasa, Lake shore, near Deep Bay, December 25, 1909 (*Dr. J. B. Davey*); a single specimen.

52. *Exoprosopa venosa*, Wiedemann (1819).

A single specimen from Nyasaland, Blantyre, April 20, 1910 (*Dr. J. E. S. Old*), which agrees well enough with Loew's description, but has a rather longer proboscis and the white scales of the abdomen disposed in a somewhat different manner. The long erect black hairs covering the upperside of the abdomen are very peculiar.

53. *Exoprosopa lepidogastra*, sp. nov.

♀. Length of the body (of 5 specimens) 12–13 mm., of the wing 11–12 mm.

A very distinct species owing to its quite narrow and elongated discal cell and the conspicuous patches of black scales on the sides of the abdomen.

Head wholly black ; face projecting, the hairs black, with a black fringe, towards the margins of the mouth ; frons narrow for a female, clothed with long black hairs and sparse yellow pubescence, which is also to be seen on the face ; occiput with short grey pubescence and white tomentum at the indentation of the eyes. Antennae black, long; first joint twice as long as the second, which is globular and sometimes of a dark reddish colour; third joint narrow, elongate, twice as long as the two basal joints together ; style short, only half as long as the third joint, bearing a distinct terminal bristle. Proboscis black, a little projecting. Thorax and scutellum black ; the hairs of the collar and of the sides are yellow; pleurae clothed with black hairs, but on the propleurae there is a golden yellow tuft ; metapleural tufts black ; the bristles are long and black. Squamulae black, with a white fringe ; halteres black, with greyish knob. Scutellum with long marginal black bristles. Abdomen entirely black ; first segment with a tuft of yellow hairs on the sides, the others showing only black hairs ; the bands of tomentum on the segments are yellowish before and whitish behind ; the patches of large black scales are on the sides of the segments from the second to the last. Venter black-haired ; spines of the female genitalia red. Legs entirely black, with black pubescence and black spines ; ungues black, with the tooth long. Wings long and narrow ; the costal third is blackish, but showing a graduated passage to the posterior darkened portion ; cross-veins with indistinct dark borders; the basal comb and the prealar hook are black. No stumps of veins ; small cross-vein placed on the first third of the discal cell and a little after the origin of the second vein ; discal cell very long and narrow, not broader than the second basal cell ; first posterior cell very narrowed at the end, second and third of equal width ; the transverse vein between the discal and the second posterior cell is very strongly S-shaped. Prediscoidal spot whitish.

Type ♀, from North Nyasa, Wovwi stream, near Deep Bay, May 14, 1909 (*Dr. J. B. Davey*); three additional specimens from West Nyasa, Mulowe and Nsisga (*Dr. H. S. Stannus*); another specimen from Nyasaland, Blantyre, April 25, 1910 (*Dr. J. E. S. Old*).

54. *Exoprosopa sigmoidea*, sp. nov.

♂. Length of the body 12 mm., of wing 13 mm.

A species belonging to the group of *E. dimidiata*, but very distinct owing to the strongly S-shaped cross-vein between the discal cell and second posterior cell.

Head black, with grey pubescence and black erect hairs on the frons ; face projecting; mouth edges with a pale fringe, with

short and sparse black hairs. Antennae with the first two joints of a red colour; first joint very long; third joint in the shape of an elongate cone, as long as the first two together and bearing a style shorter than itself. Proboscis black, long, but not projecting. Thorax black; with the exception of the black bristles, all the other hairs seem to be yellowish, and those on the metapleura also. Squamulae of a dark colour, with a yellowish fringe; halteres with yellow knob and dark stalk. Scutellum black, reddish at the hind margin, with black marginal bristles. Abdomen black, reddish on the sides of second and third segments and yellowish on the venter, which has only the basal portion of the segments darkened; third segment with entire transverse band of white tomentum, fourth and fifth with interrupted bands, the others seem to be all covered with white tomentum; sides with black hairs. Legs wholly black, with black pubescence and black bristles, but the hind femora have yellowish tomentum towards the base; ungues long, with a very strong tooth. Wings hyaline, one-half brown; the limit of the dark fore border runs obliquely from the end of the second longitudinal vein along the middle of the discal cell to the base of the fourth posterior cell and to the middle of the anal cell. Prediscoidal spot greyish; third longitudinal vein very curved at the end; first posterior cell not narrowed; the second vein beginning opposite to the small cross-vein; second, third and fourth posterior cells of about equal width. Discal cell longer than in *E. dimidiata* and much narrower towards the base; the vein dividing it from the second basal cell very strongly S-shaped.

Type ♂, from West Nyasa (*Dr. H. S. Stannus*); a single specimen.

55. *Exoprosopa dimidiata*, Macquart (1846).

I here follow Loew's definition of this species; but it seems that the African fauna is very rich in allied species, some of which are very difficult to distinguish.

The third antennal joint, which was wanting in Loew's specimen, is of short conical shape, equal in length to the first two joints together and as long as the style which it bears; the first joint is short and black. Loew says that the pleurae bear also some black hairs, which, however, in the second specimen are sparse; in my specimen there are no black hairs; as stated by Loew, the metapleural tuft is always yellowish.

A single specimen from Uganda, Peta, December 15, 1910 (*C. C. Gowdey*).

56. *Exoprosopa discriminata*, sp. nov. (Plate L, fig. 15.)

♂. Length of the body 12 mm., of the wing 13 mm.

Very near the preceding, but well distinguished by the characters given above in the table. This species is perhaps the same as the aberrant ♀ specimen of *E. dimidiata* described by Loew (*l. c.*, p. 276), chiefly in regard to the form of the discal cell. It seems, moreover, to be nearly allied to *E. sigmoidea* described above, of which it is perhaps only a variety. The two species have a similarly shaped discal cell; but the vein dividing it from the second basal cell is in *E. discriminata* only slightly curved; and the black fore border of the wing is more narrow, being in *sigmoidea* as broad as in *E. dimidiata*.

Head black, with yellowish scales on the lower portion of the frons and on the face; frons black-haired. Antennae with the two basal joints of a red colour; third joint black, more long and thin than in *E. dimidiata*, shaped as in *E. sigmoidea*, the style being shorter than the joint itself. Thorax with a distinct stripe of yellowish pubescence on the sides; mesopleurae with some black hairs; bristles black. Scutellum dark reddish, with yellowish pubescence and black bristles. Abdomen black; first segment with white hairs on the sides, the others black-haired; it seems that the third segment bears a dorsal band of white scales; the fourth and fifth have these scales only on the sides, the sixth and seventh are all covered with scales. Venter clothed with yellowish pubescence and pale hairs. Genitalia black, yellowish at the end. Legs entirely black, with black pubescence and with black bristles. Wings longer than in *E. dimidiata*; the black pattern is more narrow, reaching only the first third of the discal cell; this cell is almost three times as long as broad, and much narrowed before the base (in *dimidiata* only twice as long as broad, and not narrowed towards the base); its exterior vein is only slightly curved; the first posterior cell is much narrowed at the end.

Type ♂, from Nyasaland, Fort Johnston, April 2, 1910 (*Dr. A. H. Barclay*); a single specimen.

57. *Exoprosopa luctifera*, sp. nov. (Plate L, fig. 16.)

♀. Length of the body 12 mm., of the wing 12 mm.

Very near *E. dimidiata*, but characterised by the black metapleural tuft.

Third joint of the antennae of the same short conical shape as in *E. dimidiata*; basal joints black. Thorax with the hairs of the collar only yellow, those on the pleurae entirely black. Scutellum with reddish hind margin. Squamulae with a dark fringe. Abdomen black; the white clothing seems to be disposed as in *E. discriminata*. Spines of the genitalia yellow. Legs wholly

black, with black hairs and bristles. Pattern of the wings as in *dimidiata*; shape of discal cell intermediate between *dimidiata* and *discriminata*; first posterior cell less narrowed at the end.

Type ♀ and another ♀ specimen from West Nyasa, Vitiya and Mzimba, June and October 1909 (*Dr. H. S. Stannus*).

58. *Exoprosopa argyrophora*, sp. nov. (Plate L, fig. 17.)

♂. Length of the body 9 mm., of the wing 8 mm.

A very small species near *E. dimidiata*, but distinguished by its silvery abdomen. Head black, with scanty pubescence and black hairs on the frons. Face short, conical; proboscis not projecting; antennae with the two basal joints black, the first with black hairs and short, third joint wanting. Thorax black and black-haired, with some grey hairs on the collar. Scutellum black, dark reddish at the hind edge. Halteres with a white knob. Abdomen black, the venter and the sides of the second to the fourth segments are yellowish; first segment with white hairs on the sides; second, third and fourth segments all covered with dense silvery scales and with white hairs on the sides; the remaining segments are black, with sparse white scales and black hairs. Legs black, the tibiae dark reddish; hind claws short and with a small tooth. Wings as in *E. dimidiata*, but the black pattern more narrowed, filling only the basal third of the discal cell; direction of the veins as in *sigmoidea*, but the discal cell is more regular and its exterior cross-vein is not S-shaped.

Type ♂, from West Nyasa, Momberas district, November 1909 (*Dr. H. S. Stannus*); a single specimen.

59. *Exoprosopa argentifrons*, Macquart (1855). (Plate L, fig. 18.)

A single specimen from West Nyasa, May 19, 1909 (*Dr. H. S. Stannus*), which agrees well enough with the description. The first joint of the antennae and the legs are red; the marking on the wing is more brown than black.

This and the following species belong to the group D of Loew; but I think that they are best placed with *E. dimidiata*.

60. *Exoprosopa scaligera*, sp. nov. (Plate L, fig. 19.)

♂. Length of the body 10 mm., of the wing 10 mm.

Allied to the preceding species, but distinguished by the shorter antennae and the different shape of the wing-marking.

Head black, dark reddish on the face, which bears whitish scales;

frons black-haired and with two black cross-bands. First joint of the antennae short, black and black-haired ; third joint in the shape of a short cone, of a greyish colour, bearing a style longer than the joint itself. Face projecting, the proboscis not projecting. Thorax black, with yellowish pubescence and with black hairs on the sides anteriorly ; mesopleurae with hairs of amaranthine colour ; metapleural tuft with white and below with black hairs. Squamulae dark, with a whitish fringe ; halteres with yellow knob. Scutellum black, with red margin and black bristles. Abdomen black, the second and third segments narrowly reddish on the sides ; pubescence black, white and yellow ; hairs on the sides alternately black and white. Legs dark reddish, black on the knees and on the last joints of the tarsi. Wing-pattern like that of *E. ignava*, Loew, but with more indentations at the third, fourth and sixth longitudinal veins ; the upper corner at the discal cell is hyaline, and in this the species differs from all the others of the group D. Origin of the second vein a little before the small cross-vein ; first posterior cell broadly open, second and third of equal width, fourth broader than the others ; a short stump in the discal cell before the lower apical corner.

Type ♂, from West Nyasa, Ekwendeni (*Dr. H. S. Stannus*); a single specimen.

61. *Exoprosopa jacchoides*, sp. nov. (Plate L, fig. 20.)

♂. Length of the body 13 mm., of the wing 12 mm.

A black species, with extensive black markings on the wings, recalling that of *E. jacchus* ; the first abdominal segment bears on the sides tufts of black hairs (not white, as usual).

Head black: frons black-haired, the dark yellow tomentum forming a cross-band towards the middle. Antennae entirely black, the two first joints black-haired, the third of short conical shape, as long as the style. Face strongly projecting; proboscis as long as the mouth. Thorax black and clothed with predominantly black hairs, those on the collar being yellow ; bristles black ; pleurae black-haired, the metapleural tuft entirely black. Squamulae dark brown, with a white fringe, which is brownish in its exterior angle ; halteres dark, with whitish knob. Scutellum black, reddish at the hind margin, with black bristles. Abdomen black, reddish towards the sides and at the apex ; the first and the following segments bear on the sides black hairs only ; white scales are to be seen on the sides of the second, fourth, fifth and sixth segments, the third bearing an entire cross-band and the seventh being entirely covered with these scales ; there are also black scales in the middle of the

segments; genitalia dark yellow; venter dark, with black and pale hairs. Legs dark reddish, with black pubescence and black bristles. Wings with black veins; discal cell twice as long as broad, narrowed towards the middle, obtuse at the end; first posterior cell little narrowed. The wings are blackened from the extreme base to the end of the first longitudinal vein; from here the border runs obliquely and sinuously to the vein dividing the second from the third posterior cell at the hind margin of the wing; apex of the first submarginal cell hyaline, as also the apical half of the second posterior cell; a small hyaline oblique spot in the discal cell before its end; third and fourth posterior cells each with a hyaline spot near the hind margin, which are fused together and in contact with the spot in the discal cell; apex of the axillar cell subhyaline. There are small yellowish spots at the cross-veins, chiefly on the small cross-vein and on the base of the second longitudinal vein, which originates a little before it; prediscoidal spot small, whitish; small cross-vein placed before the middle of the discal cell.

Type ♂, from Northern Nigeria, Zungeru, February 5, 1910 (*Dr. J. W. Scott Macfie*); a single specimen.

62. *Exoprosopa lacta*, Loew (1860).

A very well characterised and elegant species, distinguished by the prevalent yellow colour of the body, the rounded and not projecting face, the brown and yellow pattern of the wings, showing broad pellucid spots on the cross-veins and two broad blackish bands fused together at the hind margin.

A specimen from North Nyasa, Makongwa, February 12, 1909 (*Dr. J. B. Davey*).

63. *Exoprosopa punctulata*, Macquart (1840). (Plate L, fig. 21.)

This species is, without any doubt, the same as that described by Loew under the name of *E. rasa* (1860). It represents the type of a natural group of closely allied species, with which are to be associated the following: *E. major, batrachoides, stannusi* and *capnoptera*. The characters of this group are:—

Abdomen of conical shape, pointed at end; body elongate, short-haired, without black hairs on the pleurae, and without silvery spots or bands on the abdomen; face little projecting; third antennal joint of conical shape, bearing a style not longer than itself; proboscis short. Wings rather narrow and long; the vein dividing the

second from the third posterior cell much shorter than the inferior vein of the discal cell and not placed on the same line with this; discal cell obtuse outwardly, with the basal angle more or less developed; small cross-vein placed at the middle or a little before the middle of the discal cell, the origin of the second longitudinal vein always taking place before it. Wing-pattern very simple, consisting only of a narrow brownish fore border and some small spots on the cross-veins.

Of *E. punctulata* (= *rasa*) there are in the collection five very similar specimens from North Nyasa, Karonga to Fort Hill, near Chikweta's village, May 31, 1909 (*Dr. J. B. Davey*); also a ♀ specimen taken between Deep Bay and Vua, May 14, 1909, by the same collector. The spines of the female genitalia are yellow.

64. *Exoprosopa major*, Ricardo (1901).

A single specimen from Nyasaland, Marimba, Kambindingo, January 20, 1910 (*Dr. J. B. Davey*), which agrees very well with the description of Miss Ricardo; the original locality was Fort Johnston, also in Nyasaland.

65. *Exoprosopa batrachoides*, sp. nov. (Plate L, fig. 22.)

♂ ♀. Length (of 6 specimens) of the body 18–20 mm., of the wing 16–17 mm., of the wing-expanse 34–40 mm.

A very large and robust species, closely allied to the preceding, but characterised by the red legs and different colour of the abdomen.

Head red, with yellow tomentum; a black spot on the occiput, near the vertex, sometimes wanting; frons with dense yellow pubescence towards the base of the antennae and very few black hairs near the vertex. Antennae short, the two basal joints red, the first bearing yellow hairs; third joint black, a little longer than the style. Proboscis black, little projecting; hind margin of the eyes very broad. Thorax black, clothed with short yellowish-grey hairs, absolutely without any black hairs, the bristles alone being black. Squamulae very large, dark red, with a yellowish fringe: halteres with whitish knob and reddish stalk. Scutellum red, with a complete row of strong marginal black bristles. Abdomen entirely red, without black cross-bands; there are rounded basal black spots in the middle of the second, third and fourth segments, which are of decreasing size; the first segment is black, with lateral tufts of whitish hairs. Venter covered with whitish tomentum. The hairs of the abdomen are very short and greyish, with scattered black hairs on the sides

near the hind margin of the segments ; last segment with a very dense marginal black fringe. Genitalia of the male of larger size, red, with yellow hairs ; genitalia of the female with red spines. Legs dark reddish, but the tarsi and the hind femora are darkened ; claws red at the base, with a red tooth ; bristles and pubescence black. Wings hyaline, with yellowish veins, which are darkened only near the end ; basal comb very large, dark reddish and with a short black fringe ; the base and the costal cell brownish ; the subcostal and the first basal greyish ; the small cross-vein and those on the base of fourth and third posterior cells (this last only near the extreme base) are narrowly margined with fuscous. First posterior cell a little narrowed at the end, the three others of almost equal width ; the first posterior cell is very narrowed near the base ; the nervure dividing the discal from the third posterior cell is very sinuous ; small cross-vein placed in the middle of the discal cell.

Type ♂ and ♀, and three additional specimens from North Nyasa, near Deep Bay, October 3 and 4, 1909 (*Dr. J. B. Davey*) ; another ♀ specimen from Nyasa, October 21, 1910 (*Dr. J. E. S. Old*).

66. *Exoprosopa stannusi*, sp. nov. (Plate L, fig. 23.)

♂. Length of the body (of 5 specimens) 15–16 mm., of the wing 14–15 mm.

A species also near *E. major*, but with red legs ; distinguished from the preceding by the smaller size and the black antennae.

Head black, reddish only on the face, on the lower portion of the frons and along the margins of the mouth ; hairs of the face yellow, those on the frons black ; antennae short, black, the first joint clothed with black hairs ; the third greyish, conical, with the style a little shorter. Proboscis black. Thorax black, with yellowish hairs and some black hairs in the middle of the back ; bristles black ; squamulae yellowish and with a yellow fringe ; halteres whitish. Scutellum black, with black marginal bristles. Abdomen yellowish-red, with grey pubescence ; venter concolorous ; a broad median black stripe which extends from the first to the sixth segment ; moreover there are black cross-bands, with black tomentum at the hind margin of the segments ; the hairs along the sides are pale, but there is a tuft of black hairs on a line with the black cross-band of each segment ; last segment with a black fringe. Genitalia red, with yellow and black hairs. Legs paler yellowish-red, the tarsi darkened and the claws with a red tooth ; knees black ; bristles black, but the tomentum is yellowish. Wings greyish hyaline, the base and the fore border to the fourth longitudinal vein, extending

obliquely from the end of the second vein to the small cross-vein, dark brown. Isolated brown spot and shape of the cells as in *E. batrachoides.*

Type ♂ and four additional specimens from West Nyasa, Viyiya and Limpachi River, October and November 1909, all collected by *Dr. H. S. Stannus,* in whose honour the species has been named.

67. *Exoprosopa capnoptera,* sp. nov. (Plate L, fig. 24.)

♀. Length of the body 18 mm., of the wing 17 mm.

Very near the preceding and perhaps the female of it; but it seems to be distinct, being darker and having different wings.

The hairs on the collar and on the sides of the thorax are golden, not grey. Halteres with blackish knob. Abdomen black, being only narrowly reddish on the sides; the hairs of the sides are all black, only the basal tuft of the first segment being, as usual, white. Spines of female genitalia dark yellow. Legs dark red, the coxae and the tibiae being in part blackened. Wings uniformly clouded with a clear brownish-black tint, the base and the costal cell being yellowish-brown; cross-veins very lightly margined with fuscous. Wing-veins as in *E. batrachoides,* but the first posterior cell broadly open and the vein dividing the discal from the third posterior cell less sinuous.

Type ♀, from West Nyasa, hills, October 1909 (*Dr. H. S. Stannus*); a single specimen.

68. *Exoprosopa penthoptera,* sp. nov. (Plate L, fig. 25.)

♂ ♀. Length of the body (of four specimens) 13–14 mm., of the wing 13–14 mm.

In the venation this species agrees with those of the *punctulata* group, but differs in the shape of the abdomen, which is not conical.

Head black, narrowly pale yellow along the mouth edges alone; face rounded, not projecting; hairs black. Antennae with the first joint black and black-haired, the second reddish, the third dark reddish, of elongate conical shape, bearing a short style. Thorax black, the hairs of the sides yellow, those on the pleurae also, with some black hairs intermingled; metapleural tuft yellow; squamulae dark, with a yellow fringe; halteres with whitish knob. Scutellum black, with reddish margin and black marginal bristles. Abdomen entirely black, on the underside also; it is not well preserved, but it seems to be clothed with whitish tomentum and black hairs, the lateral tufts of the first segment being white. Legs black, the tibiae dark

yellowish ; claws yellow at the base, with a small tooth. Wings broad and long, greyish hyaline, the anterior half darkened, its limits being irregular and not sharply defined ; the veins are a little margined with fuscous. Venation as in the preceding species, but the origin of the second longitudinal vein opposite to the small cross-vein ; the first posterior cell is, moreover, not so narrowed at the base.

Type ♂ and ♀, and two additional specimens from North Nyasa, bush near Wovwi stream, November 27 and 28, 1909 (*Dr. J. B. Davey*).

69. *Exoprosopa heterocera*, sp. nov.

♀. Length of the body 11 mm., of the wing 10 mm.

A black species with unspotted wings, readily distinguished by the colour and the shape of the third antennal joint, which approaches to that of the species of *Thyridanthrax* of the group represented by *T. elegans*.

Head black, with white tomentum and with black erect hairs on the frons ; face projecting, with white hairs on the sides ; occiput with argenteous scales at the margins of the eyes ; proboscis black, not projecting. Antennae with the first two joints short, black, the first with short black hairs ; third joint very long, more than twice the first two together, of linear shape, not pointed, obtuse at the tip, with a very minute less distinct style ; its colour is yellow, darkened towards the end. Thorax black, with grey hairs and black bristles ; hairs on the pleurae white. Halteres black, with the knob white below. Scutellum black, yellow at the margin. Abdomen black, with white tomentum ; first segment with tufts of white hairs on the sides; spines of the female genitalia long, dark yellow. Legs black, black pollinose and with black spines ; hind claws small, yellow at the base, with a small tooth. Wings uniformly smoked, the second posterior cell and the base of the discal cell being a little more clear ; base and costal cell yellowish-brown, first basal cell and the middle of the subcostal cell darkened. Small cross-vein placed before the middle of the discal cell, the second longitudinal vein beginning opposite it ; first posterior cell a little narrowed at the end, second and third of almost equal width ; discal cell not broader than the second basal cell, which equals it in length ; third posterior cell very short. Veins yellow towards the base, blackish at the end ; basal comb black, very small.

Type ♀, from North Nyasa, Marimba, near Chia River, January 21, 1910 (*Dr. J. B. Davey*) ; a single specimen in not very good condition.

70. *Exoprosopa villaeformis*, sp. nov.

♂ ♀. Length of the body (of 6 specimens) 17 to 18 mm., of the wing 16 to 17 mm., of the wing-expanse 36 to 38 mm.

A robust species of larger size, with entirely hyaline wings, much resembling a *Villa*.

Head black, the frons, with exception of the vertex and the face, reddish ; mouth edges whitish ; occiput near the indentation of the eyes with a broad band of silvery scales ; frons with yellowish, face on the sides with silvery, tomentum ; the frons bears short but dense erect black hairs ; the face shows white hairs on the sides. Face rounded, not projecting ; proboscis not projecting ; frons of the female at the vertex one and a half times broader than that of the male at the same point. Antennae very far apart from each other and very short; the two basal joints are black (or, when denuded, reddish), of equal length, the first bearing very short black hairs ; third joint onion-shaped, the broad portion not longer than the first two joints together and as long as the styliform portion ; the style almost as long as the whole antenna. Thorax black, reddish on the sides; the hairs on the collar and on the sides are yellow, those on the base of the wings are white ; bristles black ; hairs on the pleurae entirely white. Squamulae yellow, with a white fringe ; halteres yellowish. Scutellum reddish, with black marginal bristles. Abdomen black, reddish on the sides and on the venter ; there are on the segments cross-bands of black, yellow and whitish tomentum ; the hairs of the sides are alternately black and white ; venter clothed with white scales and hairs. The form of the abdomen is characteristic ; it is flattened, of rectangular outline, but the last segments are contracted, forming a cone ; male genitalia symmetrical ; spines of the female genitalia blackish. Legs red, whitish pollinose and black spinose; tarsi and tibiae somewhat darkened ; hind claws with a small tooth. Wings hyaline, the base narrowly yellowish and the costal cell yellowish-grey ; origin of the second vein opposite or a little before the small cross-vein, which is placed before the middle of the discal cell ; third posterior cell very long; second basal cell short and broad. Basal comb very large and yellow, like that of *Villa*.

Type ♂ and ♀ and four other specimens from North Nyasa, Deep Bay, Kaporo, Wovwi River and Mwiniwanda Valley, October to November 1909 (*Dr. J. B. Davey*).

71. *Exoprosopa minois*, Loew (1869).

Some specimens from North Nyasa, Nyungwi stream and Lake shore, October to November 1909 (*Dr. J. B.*

Davey), which agree well enough with this Mediterranean species.

72. *Exoprosopa hypomelaena*, sp. nov.

♀. Length of the body 10 mm., of the wing 8 mm.

A small species with hyaline wings, very closely allied to the preceding but differing in the following points.

Third antennal joint broad at the base, afterwards attenuated into a point, which ends in a style as long as this point. Lower half of pleurae and breast clothed with black hairs. The four front tibiae are yellow. Wings with the base and the costal cell only a little grey, almost hyaline ; the direction of the veins is the same, but the anal cell is more narrowed at the end.

Type ♀, from West Nyasa, Chinktu, October 1909 (*Dr. H. S. Stannus*) ; a single not well preserved specimen.

73. *Exoprosopa* (?) *inornata*, Loew (1860).

A single specimen of very doubtful determination, from West Nyasa, Limpachi River, November 1909 (*Dr. H. S. Stannus*).

74. *Exoprosopa* sp. indet.

A single badly preserved and wholly denuded specimen of a species very near *E. iris*, Loew, from North Nyasa, Fort Hill, September 26, 1909 (*Dr. J. B. Davey*).

16. *Hyperalonia*, Rondani (1863).

This genus seems to be somewhat plentiful in South Africa; in the collection there are four species, which belong to two very distinct groups.

The first group embraces the species which have red, more or less darkened, legs and extensive brown markings on the wings, which are often all darkened and with strong metallic reflections. Hind claws with an obtuse tooth. Discal cell very much twisted, pointed outwardly, the vein dividing it from the second posterior cell being very sinuous and placed almost in the same direction as the axis of the wing ; second posterior cell broader at base than at apex. To this group belongs the species *H. rufa*, Wied., from the Cape; *vittata*, Ric., from Nyasa ; *nigripennis*, Loew, from Mozambique; *helena*, Loew, from Egypt, and *venus*, Karsch, from Zanzibar.

To the second group belong the species which have

black legs, the tibiae more spinose and with longer spines, the hind claws with an obtuse tooth which it is often very difficult to see; the wings are hyaline or with much less developed markings. The discal cell is not twisted, in the shape of a trapezium, and the vein dividing it from the second posterior cell is straight and almost perpendicular to the longitudinal axis of the wing; second posterior cell broader at apex than at base. The species are *H. sisyphus*, Fabr., from Guinea; *alula*, Bezzi, from Erythraea; and perhaps *monacha*, Klug, from Arabia.

The species in the collection can be distinguished as follows:—

1 (6). The vein dividing the discal from the second posterior cell is very sinuous, oblique and almost of equal length with that dividing the same cell from the third posterior cell; wings with extensive black markings or all darkened.

2 (5). Wings entirely darkened or blackish; second basal cell with a very small whitish spot in the upper corner, which often is very indistinct.

3 (4). Head, abdomen, basal joints of the antennae and legs red, wings brown, with the cross-veins shaded . *vittata*, Ric.

4 (3). Head, abdomen, antennae and legs black; wings blackish, with the cross-veins not distinctly shaded *nigripennis*, Loew.

5 (2). Wings broadly hyaline at apex and towards the axillar cell; second basal cell with a very large subquadrate hyaline spot, which extends over almost all its apical half *thyridophora*, sp. n.

6 (1). The vein dividing the discal from the second posterior cell is straight, almost perpendicular, and very much shorter than that dividing the same cell from the third posterior cell; wings entirely hyaline, with a narrow brown fore border along the costal cell . . . . *sisyphus*, Fab.

75. *Hyperalonia vittata*, Ricardo (1901).

Ten specimens of this species, which seems to be common in Central Africa; they agree very well with the description of Miss Ricardo, and one was besides compared with the type by Mr. E. E. Austen. The great variation in size of this species has already been mentioned by Miss Ricardo; of the specimens here recorded, the largest measures 19 mm. in length of the body and about 40 mm. in wing-expanse; the smallest 11 mm. and 24 mm. respec-

tively. I think that the distinction of *H. vittata* from *rufa*, Wied., is not an easy matter.

Five specimens from North Nyasa, Kaporo, Deep Bay and Mwiniwanda, June and October 1909 (*Dr. J. B. Davey*); three specimens from Northern Nigeria, Zungeru, November 5, 1910 (*Dr. J. W. Scott Macfie*), and Dinia River, November 26, 1910 (*J. J. Simpson*); two specimens from Uganda, Oeta, December 15, 1910 (*C. C. Gowdey*). The type-locality was Fort Johnston in Nyasaland.

76. *Hyperalonia nigripennis*, Loew (1852).

A single specimen from Northern Nigeria, Gau, December 17, 1910 (*J. J. Simpson*). This species seems to be widely spread over Central Africa, as I have seen also a specimen from the Belgian Congo. Basal comb of the wing black. All the hairs of the sides and underside of the thorax and abdomen are of a golden yellow colour, which renders them conspicuous on the black ground-colour of the body. The metallic reflections of the wings are very strong, and in this the species agrees with *H. helena*, Loew, of which I have seen specimens from Erythraea.

77. *Hyperalonia thyridophora*, sp. nov. (Plate L, fig. 26.)

♀. Length of the body 18 mm., of the wing 20 mm., of the wing-expanse 44 mm.

A very distinct species, which I shall name, although the single specimen is without a head. The wing-pattern recalls that of *H. venus*, Karsch (1887), which has also a large hyaline spot in the second basal cell; but this last species shows also hyaline spots in the discal, anal, and third and fourth posterior cells, which are wanting in my species. The re-description of the species given by Speiser in 1907 seems to apply to some different species, perhaps of the group of *E. apicalis*, Wied.; at least in the species to be described here the tibiae are not pennate.

Thorax black, clothed with grey hairs and with some scattered black hairs on the sides; collar and pleurae with entirely yellowish grey hairs, also on metapleural tufts; bristles black. Squamulae yellowish, with a white fringe; halteres black, with paler knob. Scutellum dark red, narrowly black at base, with marginal black bristles. Abdomen black, the segments being narrowly yellowish at the hind border; hairs of the colour of those on the thorax, but each segment bears on the sides at the hind margin some black hairs, which are more numerous on the last segments; under the hairs

there is whitish tomentum. Venter black, the first segment reddish, clothed with short whitish hairs; spines of the female genitalia yellowish red. Legs black, the tibiae reddish, with black pubescence and black spines; hind claws with a very small tooth. Wings blackish brown, the apex broadly hyaline; the limit of the black marking runs outwards from the end of the costal cell over the apex of the first sub-marginal to the apex of the third posterior cell at the hind margin. There are less distinct pale clouds on the apex of the discal cell, on the third and fourth posterior cells and on the middle of the anal cell; the axillar cell is entirely hyaline; the large hyaline spot in the second basal cell is very conspicuous. Basal comb of a dark reddish colour and with black pubescence. Origin of the second longitudinal vein a little before the small cross-vein, which is placed at the middle of the discal cell; first posterior cell very narrow in its whole length and narrowed at the end; second and third of about equal width at the apex, the fourth being broader; discal cell very pointed outwardly, the vein between it and the second basal cell being sinuous; this last cell is in shape an almost regular rhomb, the vein dividing it from the third being almost straight, not sinuous as in *H. vittata*. The wings are longer than in the allied species.

A single specimen, without head, from Nyasaland, Dowa (*Dr. J. E. S. Old*).

78. *Hyperalonia sisyphus*, Fabricius (1805).

A very distinct species, not recognised as *Hyperalonia* in the Catalogues.

My *H. alula* (1906) from Erythraea is an allied species, characterised by the argenteous bands on the abdomen and the brown clouds on the wings.

Six specimens from North Nyasa, Deep Bay to Vua, and Bundi village, Fuliwa, May 13–14, 1909 (*Dr. J. B. Davey*); two other specimens from Fort Johnston, June 12, 1910 (*Dr. A. H. Barclay*).

INDEX

OF THE GENERA, SPECIES AND SYNONYMS MENTIONED IN THE TEXT

Explanation of Plate L.

[*See Explanation facing the* Plate.]